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PRINCIPAL CONTENTS.

Iron Ores and Iron Manufacture....369
The Flood of the Mississippi....370
Explosion of Steam Boilers....371
Baltimore and Ohio Railroad....372
Railroad Items....372, 373
Railway Management....373
American Locomotives....373
Superstructure of Railroads....373
York and Cumberland Railroad....373
Plank Roads....376
Blake's Metallic Fire Proof Paint....377
Traffic on English Railroads....377
Portable Steam Engine....377
Intercourse of Engineers....377

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Saturday, June 16, 1849.

Iron Ores and the Iron Manufacture of the United States.

MASSACHUSETTS.

Continued from page 355.

Blast Furnaces.—The number of furnaces at present in Berkshire county is seven, and arrangements have been made for building another. They are all provided with hot blast apparatus, and all but one are driven by water power. I will give a short account of each of these establishments, and a table of their operations together with those in the same geological district in the States of New York and Connecticut, after completing a similar account of them.

North Adams Furnace.—This is situated in the village of the same name on the Housatonic river, at the northern termination of the North Adams railroad. It is owned by Messrs. Stephens, Cone, and others; was built in 1846. The furnace is 36 feet high, and about 8 feet diameter across the boshes. Hardly sufficient power is furnished by the river for the blast, and the room for ore yard, etc., about the furnace is rather contracted. Charcoal is supplied from the high hills on the east and west at five and six cents per bushel; the location is a good one for this important item. They have succeeded in making iron here with hot blast for a short time at a consumption of only eighty bushels to the ton—average produce about five tons per day.

The ore comes from various sources—some from the *Kingsley bed* two and a half miles from the furnace has been delivered at $2 75 per ton. This bed is situated directly in the range of the quartz rock on the east side of the Hoosac river. Immense masses of this rock of great hardness lie on the surface around the bed; among them the strata of ore have been uncovered, and are now seen exposed, dipping steeply to the east and overlaid by horizontal strata of clay. The ore promises to be abundant, but it is highly siliceous resembling what is called in Connecticut "*frost ore*," at the Kent bed, and it can only be used to advantage by mixture with other varieties. For this reason and because of the trouble of draining the bed and of digging the ore among the quartz rocks, the full development of this mine is neglected, and the company now look to more distant sources for their ores.

One of these is at South Adams—the *Anthony bed* so called. The ore here costs one dollar per ton for mining, and probably about $1 50 more for transportation and *duty* or cost in the mine. Of its quality I am only able to say that it has a better reputation than the ore from the Kingsley bed. Other ore comes from the gorge between Dalton and Lanesboro', where directly in the quartz ridge (an unusual position for iron ore) an excellent bed has been opened, which promises to be of great extent. It is traced over many acres of table land, whose surface is covered with loose masses of quartz rock, and with it is found black oxide of manganese pure from iron ore. The quantity is altogether uncertain, but it promises to be great. The iron ore is hauled to the railroad, about one mile and a half distant, and then taken to North Adams. The cost of this ore must be to the company not less than $3 25 per ton. A portion of their ore goes a still farther distance, the bed being by the side of the Western railroad (of which the North Adams is a branch) about a mile beyond Pittsfield to the west—some 22 miles from the furnace. This ore probably costs delivered about $3 per ton. The expense of transportation to Boston is $4; to Troy $3 per ton.

Cheshire.—Arrangements have been made for building a furnace at Cheshire on the North Adams railroad as soon as the iron business will warrant it at a locality possessing unusual advantages for the supply of ore and charcoal. A bed of ore now known as the *Brown bed*, was worked many years since on the Northwestern side of the village only three-quarters of a mile from the railroad, which, on being re-opened, has proved to be of considerable extent, great purity, and very conveniently situated for mining. The workings are in a field situated at an elevation of three or four hundred feet above the railroad. To the east the land falls off rapidly, presenting an easy grade for hauling the ore to the proposed site of the furnace on the railroad. To the west it rises higher and higher, the boundary of the ore bed on this side being a high ridge of talcose slate. The position of the bed is marked on the surface by many ancient pits, which are traced over a width of a hundred feet, and about three times as far on a due north and south course. Two shafts sunk on the north extremity of these pits failed to strike any solid layer of ore until at the depth of about 45 feet from the surface. They were principally in the old workings, and then in unproductive clays and ochres. But at this depth layer after layer of ore was penetrated, and on drifting through them, they were found to alternate with the clays and ochres all pursuing a north and south course, and dipping about 45° to the west. The thickness of one of the layers of solid ore penetrated in the level, measured horizontally, was 18 feet, which is reduced to 12·7 feet measured at right angles to the dip. Other layers of less thickness were passed through in the same short tunnel, whose aggregate thickness is about 20 feet. It appears from the little depth attained, that this is but a small portion of the ore that will be found.

The quality of this ore is remarkably good. It is a hematite of great purity, fine grain, and rich chocolate and black colors. Its associates are principally of a talcose nature, derived from the decomposition of the same rock which furnished the ore itself.

About a mile and a half from the railroad towards the east, up the valley of a small stream, is another large deposit of hematite, called the "*King bed.*"—It is in the woods along the banks of a little brook, which pursues a northerly course till it unites with the larger stream running west towards the railroad. A high ridge of quartz rock bounds this little brook on the east side, and the loose masses that have fallen from it lie strewed with rocks of hematite in the narrow valley between the ridge of a long knoll parallel with it on the east side. Towards the south the little valley extends with the same features more than half a mile. For about 100 feet in width and 50 rods in length it has been explored carefully by

shallow pits, and this portion seems to be underlaid almost wholly with ore. In one pit, 20 feet in diameter, a bed of ore was struck near the surface, which proved to be about 12 feet thick, resting on blue clay 3 to 4 feet thick; and under this was ore again to the bottom of the pit, about 12 feet more in thickness. The ingress of water prevented the workmen from fully proving this lower stratum.—The position of these strata is more nearly horizontal than those of the Brown bed, and their dip is in the contrary direction—viz: to the east—somewhere about 25°. In all the pits ore was found near the surface in this regular stratiform arrangement. Seams of clay and ochres occur with it, but the ore prevails over all other materials. Its associates are of a siliceous character, quartz in small particles being more or less mixed with the ore; but it is of much purer character, than is often found in such close proximity to extensive ledges of pure quartz, and moreover it will probable prove advantageous, in consideration of its use with the ores of the Brown bed, that the impurities of the one should be siliceous, while those of the other are talcose; ores of these different natures working better together, than do those of the same character. This locality is not so well situated for draining as the other; the brook however will carry off the surplus water, and will be useful for washing the fine ore. A furnace located on the railroad between these beds will be supplied with ores at an average distance of transportation hardly exceeding one mile; and at a cost for mining and hauling safely estimated at $1,-50 per ton. Its advantages for the supply of charcoal from the neighboring hills are also very great, the cost of this item being estimated not to exceed 5 cents per bushel.

With these data and 150 bushels allowed to the ton of iron, the expense of manufacture will stand about thus—

Ore, 2½ tons, at $150	3 75
Charcoal, 150 bush., at 5 cents	7 50
Flux, say 25c, *Labor*, $2 50	2 75
Superintendence, interest and repairs	3 00
	$17 00

Lanesboro' Furnace.—In 1847 was built in Lanesboro' by Samuel Smith Esq. of Boston a large furnace 40 feet high and 10 feet across the boshes. Its situation is in the centre of the village, by a small stream, which affords however no water power, so that it has been necessary to put up a steam engine. This is of 50 horse power, intended for two furnaces—should the business of the company warrant the construction of another. About three miles to the southwest from the furnace is the *Sherman ore bed*, which supplies an excellent quality of brown hematite. It lies on the east side of a low ridge of limestone, which dips to the east passing under the ore. The ore bed is traced for 40 or 50 rods along the point of this knoll, and is found to consist of layers of solid ore interstratified with clays and ochres. The quantity seems to be great, but the proportion of the ochres and influx of water render it not the least expensive mine to work. The development of ore here has proved to be very great since the above was written.

The company also own another mine called the *Newton bed*, four and a half miles from the furnace in the same direction. This is situated in a high ridge of micaceous and talcose slates and quartz rock, which closely resemble the gold bearing rocks of the south. The ore is in a heavy bed of some 50 feet in thickness. It consists of varying proportions of ore, clay and ochre; stands nearly vertically in the hill, and pursues the same north and south course with it. The quality of this ore is different from that of other localities in Berkshire; its color is rather a light brown, texture compact, and it has not the appearance of being a very rich ore. Samples of it were found by A. A. Hayes, Esq., to contain from 40 to 46 per cent. of iron, about 7 per cent moisture, and 25 to 35 per cent. of micaceous rock, as gangue.

The furnace commenced making iron in March 1848 with hot blast, and its yield has been as high as seven tons per day. The North Adams railroad passes up the next valley to the east, and the distance over the ridge to the depot is about a mile and a half. On account of the steep hill the expense of hauling a ton of iron to the railroad cannot be estimated at less than half a dollar, thence to Boston the transportation by railroad is four dollars—to Troy three dollars.

The company own a considerable body of wood land on Saddleback mountain and the neighboring hills, where they have several kilns scattered about for charring the wood. Charcoal costs them delivered from five to six cents per bushel.

Richmond Furnace.—This furnace, built about 20 years since, has been under the direction of Samuel Gates, Esq., agent of the Richmond Iron Company. The company also owns the furnace at Vandeusenville in Great Barrington. The ore is obtained from the bed at West Stockbridge, the right of mining in a part of which is owned by this company, as also by the Lenox Iron Company, the title being held by the Stockbridge Iron Company.

The Richmond ore bed in the town of Richmond also belongs principally to the Richmond Company, but it is not found so profitable to work as the bed at West Stockbridge. It is interesting as being the locality where the mineral "*Gibbsite*," was first discovered, and from which all the specimens have been obtained. For the last few years it has been impossible to find more than thin incrustations of the mineral on the hematite.

The furnace is about one mile from the junction of the Housatonic railroad with the Western railroad, at the "*State Line Depot*," and from one and a half to two miles from the West Stockbridge ore bed. The ore costs about two dollars per ton delivered, as stated to me by John Coffing, Esq., also an agent of the same company. Charcoal is brought down from distances varying from four to fifteen or sixteen miles, and the estimated average cost of this is 6½ or 7 cts. per bushel.

The furnace is hot blast, of the usual size of the Berkshire furnaces, and is stated by Mr. Coffing to make 4½ tons per day. It is on a small branch of the Housatonic river, the fall of which affords too little power for a blast furnace.

Lenox Furnace.—This is owned by the Lenox Iron Company, chartered in 1848, though the works are the oldest of all those in Massachusetts. It is situated on the Housatonic river a mile east of the village of Lenox, and six miles from the West Stockbridge railroad depot. The ore is hauled from the West Stockbridge ore bed, seven miles, at a cost of $1 40 per ton. Estimating the mining at one dollar, and the value of the ore in the ground at 37½ cents, its cost at the furnace is $2 77 per ton. The town of Lenox appears to be situated upon limestone and ore, and the furnace has used a considerable quantity of ore taken from this locality, also some from another bed about a mile west of the town; but the ore from neither of these sources proves of so good quality as that from West Stockbridge and is now little used. The position of this ore is on the west side of an out crop of limestone; at one locality it is found going down vertically against the ends of the limestone strata, which dip away from the bed towards the east. The ore seems to be deposited either in a *vault* or in what is called in the southern States a linestone sink, or great cavity left by the removal of the stone and sinking of the surface.

Up to the present year the company have been obliged to haul their iron to West Stockbridge, six miles, and over a mountain to the railroad depot. They will now soon have the benefit of railroad transportation directly from the furnace, the road which is in progress from the Housatonic road at Vandeusenville to the Western railroad at Pittsfield passing up the valley of the Housatonic river and within a few rods of the furnace. Possibly their ores may be brought by the same road, and afforded at a less rate for transpartation than is now paid.

Though this furnace is not supplied with ore at the cheapest rates, and its charcoal costs about the same as at the other establishments in the neighboring towns, and, moreover, it is at a greater distance from railroads than the others, it has done a good business, and is in good times a prosperous concern. Its yield is about 5½ tons of pig iron per day.

Mississippi Floods.

Mr. Editor:—The floods of the Mississippi are matters of such wide concern, that it may not be out of place to bring under the notice of your readers a measure by which I have proposed to prevent the recurrence of these floods. A knowledge of the locality to which my remarks apply, and a varied experience in works of river drainage, during the course of a professional engagement under the Board of Public Works for Ireland, lead me to venture on the consideration of an engineering question so immense in idea as the drainage of the Mississippi. The floods of that river are evils of the first importance to this great country; and as they are not to be paltered with any longer, sinking a pile here, and spreading a barrow of earth in another place, but looked boldly in the face as things to be overcome, I beg leave now with the view of inviting the criticism of my professional brethern throughout the Union, to bring forward thus publicly a measure by which I propose to prevent the recurrence of those same floods.

Before entering on my proposal, I must consider in this letter the two preventative measures which seem to stand most favorably in public opinion in the south—"levees" and "cut offs."

First then, as to levees.—The velocity of a stream increases on the same grade, very nearly as the square root of the depth; and therefore, the impact and friction increasing as the square of the velocity, the depth itself is the measure of the wear and ear on the banks. Now raise the levees of the Mississippi, and you raise the depth of water within them in time of floods; and the consequently increased velocity brings down an increased amount of alluvium, which, falling to the bottom of the duller waters, spreads over it year after year, until the river has re-established its *regime*, that is to say, brought itself back to its former average depth.—Then floods set in anew—up go the levees, and with them up go the waters; and so on, always raising the bed of the river as we raise the top of the levees. Let us inquire in the next place how facts agree with this theory.

The cloaca maxima, an arched sewer some thirty feet high, which discharged the drainage of ancient Rome into the Tiber, is now almost buried below the bed of that river. Is this geological

progress solely? Certainly not; for while the Coliseum maintains its ancient level in reference to the country generally, the foundations of that building, which were drained by this very cloaca maxima, are now filled with water from it. What then, it may be asked, is the cause? The History of the River Po will answer this question.—In the Middle Ages, ignorant men sought to confine that river within embankments. They succeeded in doing so for a time; but the return of the floods after a few years lead to a further piling up of these embankments; and so on, each succeeding course on the embankments keeping out the floods for a season, until the beds of the river and its several tributaries had risen to such a height, that the waters rising with them, reduced their several districts to the condition of mere swamps. In the sixteenth century, fifteen hundred square miles of country were flooded by this river; and at the present moment *the water within its 'levees' is higher than the roofs of the houses in Ferrara.* Zendrini, one of the fathers of hydraulic philosophy, pronounced *leveing the cause of the altered level of the Po*, and in looking for a remedy in the case, proposed *a new waste channel to carry off the surplus waters.* These facts, therefore, are in exact keeping with my theory.

To sum up my objections to 'levees:' if you raise levees along the river, you raise permanently the level of the water; if you raise the level of the water, you increase the danger and devastation of crevases; and while their maintainance will be a source of *progressive* taxation on the locality, the substratum is so porous that, holding a head of water above it you will undoubtedly reduce the rich valley of the Mississippi by *underground floods*, to a pestilential swamp.

'Cut-offs' seem very plausible at first sight; but not quite so much so on a closer examination. This favorite measure contemplates straight cuts from the sea to the source working gradually upwards. The river itself is to execute the work. Now there is no doubt the river is quite equal to the task; but who will give security that an agent so very likely to have a will of its own will execute the work according to the wishes of its employers? Who will undertake to say it will do no more than is necessary —that it will not, like the River Po, alter its course altogether; or like the Zuyder-Zee, spread out its immense volume into a lake? What is to become of the spoil? For every mile of such a cut the river has to carry before it some fifty millions of cubic yards of earth and boulders; and who will pretend to say what proportion will reach the deep sea, what will heap itself up into bars at the mouth what into shoals up-stream? Finding very probably a greater amount of resistance in the deposit along its channel to the sea, may it not take a shorter route, and, bursting into Lake Borgue, swallow New Orleans on its way? What, I say, is to prevent this? The levee? the piles? They would be to the Mississippi as chaff to a hurricane. This proposal is therefore wild, preposterous;—and a new channel for the Mississippi could hardly in even the days of Sesostris or Cheops have become a question of manual labor. But it is urged by the advocates of 'cut-offs:' the Mississippi has already made a straight cut across one of its curves with all the docility of a Negro. This will oblige me to look at the matter in another light, and unfortunately in one less popular than could have been wished.

The strata and stream of a river bear to each other a fixed relation; the stream that rushes rapidly over rock, glances perhaps even quickly over gravel, but always sobers down where it enters a formation of clay or marl. This is a law of nature.—Break this equilibrium—increase the rate of flow—and the banks, unable to resist the action of the stream, are borne before it. Every material then has its maximum flow, some bearing twenty miles an hour, some ten miles, some five. Bossuet gives the following expression for the velocity of a stream: Nine-tenths of the square root of the product of the slope in two miles multiplied by the mean hydraulic depth. Now, the cut proposed will lessen the length of the channel by suppose one-third; and the total fall between the extreme points being a constant, the rate of fall will therefore be increased by one-half. But the velocity has been seen to be nine-tenths of a mean-proportional between the mean hydraulic depth and the fall in two miles, and therefore assuming the velocity the same in both channels, the mean hydraulic depth in the new one will be only two-thirds of that in the old. Consequently, the flood level in this new channel will be some forty feet below the top of the levee when we take the velocity as equal; and therefore assuming no increase in the velocity, the consequences of these cut-offs would be, especially in the south, the reduction of the Mississippi valley to an arid waste. But the velocity will not be the same in the proposed channel as it is in the existing one. By increasing the fall one half, let it be assumed that the velocity will be increased one-fourth, raising it from say 6 to 7½ miles an hour. Now the impact of the stream increases as the square of the velocity, and therefore while a steamer going up the Mississippi has to overcome in the existing channel a resistence of only 36, she will have to overcome in the new channel a resistence of 56, that is to say a resistence one-half more than that at present. But this is not all.—The water in the existing channel loses an immense amount of force in overcoming the resistence of elbows and the like; and this amount expresses a motive power which, in the straight cut proposed, acts conjointly with the fall in accelerating the velocity. The velocity arising from these causes will place navigation out of the question. But will the banks resist it? Certainly not; for they are composed of a material that has already been carried away under the existing regime, seeing that the lower valley of the river is merely one great deposit from the upper. The banks will consequently continue to cave in until the bed shall have been filled up to such an extent, that the river will once more discharge itself into the sea over the whole width of its lower valley. It is needless to add any more on this head; and indeed it would have been equally so to have dwelt even so much upon it, did not the advocates of 'cut-offs' bring forward *a fact* to show cause for their scheme.

In a word then, 'cut-offs' are objectionable on these grounds: either by lowering the Mississippi they reduce its districts to a parched desert; or by increasing the velocity of the water they prevent navigation, and ultimately choking up the bed, spread the river out into a wide lake.

So much on measures recommended for the drainage of the Mississippi. Reserving my own proposal for a second letter, I may assure you here that, considering the question as one of the deepest importance to thousands, I am quite prepared to meet the remarks I invite in a spirit of friendly inquiry, and altogether apart from any weak fondness for my own idea.

I have the honor to be
Your very obedient servant,
M. Butt Hewson,
New York, June 5, 1849. *Civil Engineer.*

Explosions of Steam Boilers.—No. 3.

On the subject of steam boiler explosions, as up on every other, persons make up their opinions in accordance with what appear to be circumstances of the case. It often unfortunately happens that those persons whose opinions are taken as authority in such a case are not sufficiently acquainted with scientific principles to enable them to judge correctly of the causes at work which occasioned the explosion; and this may probably be correctly attributed to the wide-spread notion among practical engineers, that steam boilers are frequently exploded by means of hydrogen gas. It is much to be regretted, that most scientific men, by their silence on this subject, tacitly countenance the fallacy, while a very few have seemed to admit its bare possibility. A still smaller number have combatted it, and treated it in a proper manner. The engineer understands that water is decomposed by coming in contact with heated iron;—that hydrogen is consequently given off, and that this gas is highly inflamable and explosive. Having obtained the knowledge of these facts, and supposing that hydrogen gas, because inflamable, will readily be ignited by coming in contact with metal raised to a red heat, he jumps at once to the conclusion, that by such means, the steam boiler is, or may be, exploded, when highly heated in consequence of deficiency of water. Were it possible, in the first place, to generate a sufficient quantity of hydrogen gas in the interior of steam boilers already full of water, to produce such an effect in case of its ignition, there is, it is believed, no known principle in chemical science, by which this could take place under such circumstances. Certainly, all practical experience is directly opposed to it. Steam, it must be recollected, however high its temperature and elasticity, is but water still, though expanded by heat; and no particle of it can be decomposed, nor its hydrogen liberated, by heat alone. It is believed that no attempt hitherto made to explode or ignite that gas, except in the presence of common air or oxygen, has proved successful. Like all other combustible matter, it requires a supporter of combustion to ignite it. When issuing from a jet into the atmosphere, it is readily inflamed, and rapidly consumed. In a vessel containing a quantity of the gas, and another of atmospheric air, the introduction of a lighted match, or any other flame, produces an instantaneous and violent explosion. But the hydrogen alone will quench the flame of the match, taper, &c. when plunged into it, as qickly as water itself. How then is it possible that, in a steam boiler, the entire capacity of which is filled with steam and water, and crowded to a pressure of perhaps seven or eight atmospheres, the gas should be ignited at all? It cannot be pretended that there is atmospheric air enough present; to cause combustion which shall prodnce such a tremendous effect as the explosion of the boiler, there can be no free oxygen to promote combustion, for there could have been no more than that liberated by the decomposition of the water from which the hydrogen was produced. And in the very act of that decompositon, as a necessary part of the process, *all* that oxygen was absorbed by the heated metal. These simple statements are believed to be scientifically correct, and in full accordance with all practical experience, and all known facts. If this be true, then it cannot be true that steam boilers are exploded by the combustion of hydrogen gas.

But, we inquire, in the second place, is it possible to produce a sufficient quantity of hydrogen gas in a steam boiler, to explode the boiler? even ad-

mitting the gas could be ignited? The first hypothesis is, that, the water having subsided below its proper level, the metallic substance of the boiler becomes highly heated, and that then the water injected by means of the supply pump, comes in contact with the heated metal, and a portion of it is decomposed. The question now is, how much of that water can thus come in contact with the heated metal?

Suppose a set composed of six common high-pressure boilers, each thirty feet long, and thirty inches diameter at the water line. The upper surface of the water would then contain four hundred and fifty superficial feet. Again, suppose the metal above the water line to have attained a red heat. It will require the operation of the supply pump one minute to discharge into the boilers about sixteen gallons of water. Thus, in about four seconds of time, these boilers receive one gallon of water, which, instead of being thrown on the heated iron, is thrown directly into the body of water already in the boiler, and having, as above seen, a surface of four hundred and fifty superficial feet. The entire surface is therefore raised just as much as this one gallon of water will raise it by being spread over its whole area, and the entire quantity (sixteen gallons) thrown in in a minute, will raise the surface less than one-sixteenth part of an inch.

It cannot be supposed that under so very slight and gradual an increase of water, such an entirely different state of things should take place, and a sufficient quantity of hydrogen gas be formed to create the instantaneous explosion of the steam boilers. That it is not by any protracted process by which the gas is accumulated in any considerable quantity, is obvious, because a great proportion of steam boiler explosions occur, especially those attributed to low water, immediately on starting the engine, and before time has been allowed to supply even two gallons of water. C. T. J.

Visit of the Governor and others on the Baltimore and Ohio Railroad.

On Monday, agreeably to previous invitation from the President of the road, Governor Thomas, Dr. Claude, the State Treasurer, Colonel Stansbury, the Mayor of Baltimore, and other invited guests, with several of the Directors, made an excursion over the road for the purpose of examination and to visit the coal region in Allegheny county.

In passing up the road, the attention of the party was called to the various improvements in the location between Baltimore and Monococy river, 57 miles distant, which have been made from time to time by the company within the last ten years, and some of the most important of which are still in progress. This section of the line, it is known, was the earliest opened and was laid out and constructed in the infancy of the enterprise, when there was no experience anywhere upon the subject. West of the Monococy, the location having been made with improved knowledge and through a more favorable country, has not needed any amendment. The changes in the bed of the road east of that river have avoided or ameliorated most of the abrupt curvatures along the crooked ravines of the Patapsco and Bush Creek, the former location having been changed in upwards of thirty different points. At two of the most striking of these the company left the train for their closer examination. The first is a tunnel of upwards of 400 feet in length through a bend of the Patapsco river hill, about 26 miles from Baltimore. The rock is granite, and of so firm a texture that no artificial arching will be required, and the perforation will present on that account a bolder and not less pleasing appearance. The second is an excavation some 40 feet in depth through a circuitous neck of land upon Bush Creek, about 55 miles from Baltimore. These several improvements in the bed of the road, together with the reconstruction of upwards of 60 miles the original track laid upon it, have added, and are still adding, a largely increased capacity to the work for all the purposes of safe, cheap and comfortable transportation.

At Harper's Ferry, where the company stopped some time for dinner and an examination of the interesting works at that place, the extensive and remarkable viaduct across the Patomic was inspected by them, and much interest shown in its plan, presenting some uncommon features, due to its peculiar position. This bridge has been entirely rebuilt during the last four years, and is believed to be now one of the most permanent structures of the kind in the country. At Martinsburg, opportunity was given to look at the large and substantially built engine house and machine shop at that point, where the company was about to establish their central station between Baltimore and Cumberland.

Upon the remainder of the line to Cumberland, but a passing view was taken of the several objects of interest, among which were the viaducts which had been reconstructed in an improved manner within the last three years, and are now in the best condition.

The general state of the company's works impressed the Board and their guests as highly satisfactory The railway track is in excellent order, and stores of materials seasoning for repairs, appearing at frequent intervals along the road, gave evidence of a provident care of the future.

The company had an opportunity of inspecting a piece of track near Cumberland, just laid upon a new plan suggested by the Chief Engineer, which promises some important improvements, and is now undergoing the test of experiment. Its simplicity of construction, combining utility and economy, was observed with particular attention by the visiters, and great confidence was felt in its entire success on a more full trial.

The visit to the mines above Cumberland was very gratifying. The train, consisting of three cars having been attached to a six wheel locomotive of 16 tons weight, ascending the grade of 135 feet per mile, at a velocity of from 10 to 15 miles per hour, to the Eckart mines on the National Road, a mile east of Frostburgh, where a hospitable reception was met with from M. O. Davidson, Esq., Engineer and Agent of the Maryland Mining Company.—After visiting the mines, into which many of the visiters penetrated for a distance of upwards of a quarter of a mile, they proceeded to Frostburg, where after a handsome entertainmen given them by Col. McKaig, the President of the Forestburg Coal Co., they descended to the mines of that company, and after a view of them and of those of Col. Young, in the vicinity, took their seats in a train of the coal cars of that company cleanly swept out for their accommodation, and ran down, without any power than that afforded by the descent, to the Mount Savage Works. Here a couple of hours were profitably and agreeably spent in examining the various works of this extensive property. The works are not at this time in operation, but are undergoing improvements, suggested by the practic of similar establishments elsewhere, and tending to a considerable economy in the manufacture of iron. The attention of the visiters was directed to the very excellent fire brick produced at these works, from a clay procured from their vicinity, and judges of the article who were present, pronounced them to be superior to the famous Stourbridge bricks. The company returned to Cumberland in the evening by the Mount Savage railroad, descending the grade of 100 feet per mile at a speed of about 12 miles per hour.

The arrangements of the depot at Cumberland, particularly the part of it appropriated to the passenger trains, were favorably mentioned; and the general thriving appearance of the town appeared to produce a marked impression, made not the less agreeable by the excavations going on within it upon the line of the new road, on which ground has been broken upon a number of points, one of them conspicuously in view from the present terminus.

The arrival of the party at Cumberland on Monday, was delayed to a late hour by a derangement in the running of the tonnage trains, due to a slight accident within a few miles of Cumberland, and a detention in their return to Baltimore was also experienced, by a collision which took place between the special train containing the visiters, and the Frederick passenger train, at about 24 miles from Baltimore, owing to a misunderstanding as to the place of passing. With the exception of these two circumstances, which did not interfere in any degree with the main objects of the excursion, it was in all respects satisfactory and pleasant, and cannot but tend to happy results.

The Governor exeressed high approbation of the condition of the road, and of the importance of its completion, at the earliest possible day, than to which end, he said, the energies of the State and city could not be more usefully directed.—*Patriot.*

Pennsylvania.

The Central Railroad.—Among the subscriptions to the Pennsylvania railroad the Philadelphia Inquirer mentions $20,000 by the Bank of Pennsylvania, $20,000 by the Hand-in-Hand Fire Insurance company, and $15,000 by the Franklin Fire office. The Philadelphia Bank has also agreed largely to augment its subscription.

The returns of the block committees, appointed at the recent railroad meeting to solicit subscriptions to the stock of the Central railroad, show that upwards of six thousand shares had been subscribed, amounting to between $300,000 and $400,000.

The work of the road is progressing rapidly towards the Allegheny Mountains. The injury done to the bridge over the Susquehanna by the recent storm, has been repaired, and the whole frame work of the structure will be up in about two weeks. It was all up on Saturday except the spans. The enterprising contractor is pushing the work rapidly to completion.—*Harrisburgh Intel.*

Buffalo and Pennsylvania State Line Railroad.

A preliminary survey of the route of the Buffalo and Pennsylvania State Line railroad is to be made immediately, under the direction of William Wallace the Superintendent of the Buffalo and Attica road. The Buffalo Republic is urging upon the corporation of that city a subscription of $500.000 to the railroad from Buffalo to Erie. The Buffalonians, and all on the line from that city to Erie, are busy obtaining stock for a railroad between those two points.—*Ib.*

Ohio and Pennsylvania Railroad.

Stark County, Ohio, has subscribed $75,000 to the stock of the Ohio and Pennsylvania railroad.—A public celebration of the commencement of the first twenty miles of the road is to take place on the 4th of July.

New Hampshire.

Cocheco Railroad.

NEW ROUTE TO THE LAKE AND MOUNTAINS.

A cargo of iron for the Cocheco road arrived at Portsmouth, N. H., a few weeks ago. The track, we learn from the Dover Gazette, is now being laid, and the road will be open between Dover and Farmington in a few weeks. A ride of some ten miles by stage from Farmington, carries the traveller to Alton Bay. From that point the little steamer "Lady of the Lake," just launched and to be ready by the middle of June, will convey passengers across the beautiful lake "Winnipisseogee" to Wolfborouge, Centre Harbor or Weir's Bridge. Centre Harbor is on the direct route to the White Mountains; and from Weir's Bridge the cars of the Montreal railroad will soon be ready to convey the travelling public to the village of Plymouth on a direct route to the Franconia Notch, 28 miles above Plymouth.

The little "Lady of the Lake" is under the charge of Capt. William Walker, formerly of the Eagle Coffee House, Concord. A trip to the Lake, Red Hill, White Mountains, Franconia Mountains, &c. is made so easy and cheap by this route, that it will doubtless soon become a favorite one. With a railroad connection between Portsmouth and Dover, after the Cocheco road is finished to Weir's Bridge, or even Alton Bay, the summer travel betwen the lakes and mountains and the sea beaches in the vicnity of Portsmouth will be vastly increased.

Railroad Meeting in Maine.

PHILLIPS, May 15, 1849.

Mr. Noble, the engineer, employed to survey a route for a railroad, from Phillips through Farmington to Bartlett's Corner, in Jay, has this day made his report at a full and interesting meeting of the citizens of the county of Franklin, held at Strong,

of which Col. Theodore Marston, of Phillips, wa Chairman.

The report was favorable, and a determination to obtain a charter at this session of the Legislature was manifested, by the adoption of prompt and energetic measures directed to that end.

In the progress of events, no one is more certain than that the valley of the Sandy river, is sooner or later, to witness the construction of a railroad, far towards its source; and there is every reason to believe, that measures to obtain so desirable an end are already in operation.

Respectfully yours,
M. W. Dutton, Secretary.

Connecticut and Passampsic Rrilroad.

The receipts of this road for April were: Upward freight, $1,918 21; downward freight, $1,914 04; passengers, $3,762 43. Total, $7,624 71.

Air Line Railroad.

The bill repealing so much of the charter of the New York and Boston railroad company, as authorises a bridge over the Connecticut river at Middletown, has passed both branches of the Legislature of Connecticut. The vote for repeal in the House was 129 to 85—in the Senate 16 to 5.

Rutland and Whitehall Railroad.

The line of the Rutland and Whitehall railroad, 24 miles in length, has all been put under contract to be completed July 1, 1850.

☞ Seventy-two loaded freight cars went up the Worcester railroad on Tuesday morning last. The Grafton locomotive walked off with this immense load without flinching in the least. Estimated weight of freight and cars about six hundred tons. This is by far the largest number of cars and the heaviest load ever transported on the road with one engine.—*Prov. Jour.*

Railway Management.

The following remarks in the *Boston Traveller* of last week, were called forth by the failure of the *Norfolk County railroad company:*

Anciently, we heard the proverb, frequently, "as good as the bank," but, some ten years ago, the public came almost to the conclusion that any thing almost was better than the bank. Some banks failed, all were in bad odor. But after a while the public began to examine. It was found that, bad as the banks were, there were some of them that had been honestly and prudently managed. So after the first surprise was over, the good ones resumed their standing, the tainted ones reduced their capitals, or otherwise put their houses in order, and the bad disappeared altogether. Railroads, in our judgment, are now passing through a similar ordeal.—Hitherto their high standing has given facilities for a reckless mismanagement, by unprincipled or inexperienced men, by which innocent and confiding stockholders are injured, the money market embarrassed, and general disappointment and loss to all concerned occasioned

In this country our railroad experience has been short, and we have much to learn yet in reference, not only to their construction, but their management. The old fashioned virtues of honesty, integrity, economy, &c., can no more be neglected in their management than in the business of the farmer, mechanic, or manufacturer. That those roads laid out with judgment and constructed with economy, will prove safe and profitable investments in the long run, is not to be doubted. Of this, the progressive growth of the country affords a guarantee. But there are many premature and ill-managed enterprises, that must result disastrously to the parties concerned, and especially will this be the case in respect to companies the direction of which show themselves such models of shrewdness and far-sightedness as have those in the Norfolk County.

Galena and Chicago Railroad.

Twelve hundred and twenty one passengers have been carried on this road during the month of April. The road is now finished twelve miles, or one mile beyond the Des Plaines river. Workmen are busy in building the superstructure and laying the rails. The Chicago Democrat says that the acting director of the road is now at the east on business connected with the road. He is empowered to contract for iron, locomotives, &c., and will do all that can be done under the circumstances, to advance the interest of the enterprise.—*Ib.*

American Locomotives.

A treatise with this title is in course of publication by Mr. Emil Reuter, of Reading. The work will be in 16 monthly numbers, at 75 cents each.

A practical treatise on Locomotives has long been wanted, and it is creditable to our city that it should originate here. Mr. Reuter is personally known as the principal draughtsman of the extensive machine shops of the Reading railroad company, and every facility has been placed in his hands, by those accomplished machinists, Messrs. Kirk & Milholland for making his work what it ought to be. The treatise will contain 42 elaborate drawings, giving the plans and working details of twelve of the best American locomotives from the shops of the principal builders in this country.

America is distinguished for the superiority of her locomotives, and this work will show mechanics how that excellence has been attained. It is, besides, a practical treatise on steam power, and will no doubt soon be in the hands of every machinist. It deserves to be popular, and will be so.—*Berks and Schuylkill Journal.*

Superstructure of Railroads.

If there is one subject in the whole range of railway economy more important to the public and to the railway interest than any other, it undoubtedly is, the question as to the best form of superstructure for a road. Originally stone blocks were introduced for the bearings of the rails. These were found so unyielding that the wear of iron caused a gradual supplanting of stone sleepers by wooden ones.—

The crosstie track has been more generally adopted in this country; but recent investigation has induced several engineers to substitute the continuous bearing track in place of the crosstie.

The following interesting statement on this subject, we copy from the latest received number of the *Railway Chronicle.*

At a recent meeting of the Institution of Civil Engineers, in London, May 8, Mr. J. Field, President, in the chair—

A paper was read, describing a kind of permanent way, which had been laid down on the Lancashire and Yorkshire railway, by Mr. Hawkshaw. The principle was that of a bridge rail, weighing 75 lb. per yard, placed upon continuous longitudinal timber bearing, and the novelty consisted in having at each joint a malleable iron plate chair, with a projection on the upper surface, fitting within the interior of the rail, and the flanges, which were 14 inches long, by 8 inches wide, and half an inch in thickness, attached to the rail by rivets in such a manner as to fix them firmly together, and yet to allow for expansion and contraction. The details were simple and complete, and in an extent of twenty miles so laid, over which numerous heavy trains had run daily, at considerable speed, for the last year, only three rivet heads were found to have been knocked off.

May 15.—Mr. J. Field in the chair.—The discussion on Mr. Hawkshaw's paper, 'On a longitudinal continuous bearing Permanent Way,' was continued throughout the evening, to the exclusion of every other subject. Some interesting observations were made on the actual destruction of the cast iron chairs and double-headed rails, and the advantages that would result from the more general substitution of continuous longitudinal timber bearings for the present transverse sleepers and cast iron chairs. The gradual ameliorations that had taken place in the forms and strengths of the bridge rails and their various fastenings were discussed; and it was contended that the hollow bridge rail was more durable than any other, that the upper surface was more compressed in rolling, and that the system of connecting the end, whether by riviting to a plate or by bolts and nuts, made a better and more even joint, and therefore produced a more level surface for the engines and carriages to run upon. The duration of the timber was declared to be such, that a second set of bridge rails had been laid down on the longitudinal timbers, whereas the cross sleepers had never been able to bear that. This, however, it was asserted, arose principally from common timber being used for transverse sleepers—whilst the best kind, well creosoted, was used for the longitudinal bearers. The system of inserting a piece of hard wood between the rail and the main timber, as on the Great Western, was much approved; as was also the plan of side transoms halved into the main timbers, as it enabled a better system of drainage to be employed than had been usual with that kind of permanent way. The new systems tried by Mr. Samuels on the Eastern Counties, and of which several models were exhibited and described, received much commendation, particularly the plan for dispensing with the joint chair and uniting the ends of the rails by two side pieces, or fishes, of cast iron, bolted through and to each other, so as to render that part equal in strength to the body of the rail.—The question of the means of allowing for the contraction and expansion of a line of securely fastened rails was discussed, as was the creeping or advancing motion of rails in the direction of the traffic. The general opinion seemed to be decidedly in favor of the longitudinal bearing, although it was admitted that many of the transverse sleeper railways, for instance, such as had been laid on the plans of Cubitt and of Hawkshaw, were so good that it was not to be presumed they would be removed to make way for the longitudinal system.

York and Cumberland Railroad.

At the late meeting of the stockholders of this company, a report was read by the President, from which we extract the following:

The means of the company may be stated as follows:—

Subscription list	$430,000
Stock taken by contractors	$100,000
	$530,000

The cost of the road is estimated as follows:—

Contract price	$525,000
Expenses of engineer corps	20,000
Salaries and incidentals	15,000
Damages	30,000
	$590,000

It will be seen by this exhibit, that it will be necessary, before the work is closed, either by an increase of subscription or some other means, to provide for raising this additional sum of sixty thousand dollars, together with any deficiency caused by a failure in the payments of stock subscription. It is however gratifying to us to say, that we shall without difficulty be able to get along until toward next winter with our present means, and without embarrassment, as the Board rely most implicitly upon the universal good standing of our present stockholders, for such prompt payment of the instalments as will carry us safely through that far.

Gen. Columbus O'Donnell, John Hopkins, Benj. Deford, J. H. Carter and Thomas C. Jenkins were appointed a committee to devise means to raise the additional money required to finish the road.—*Balt. Clipper.*

Portland, Saco and Portsmouth R. R.

At the annual meeting of the Portland, Saco and Portsmouth railroad company, holden at Portland on the 4th inst., the following gentlemen were chosen directors:

Ichabod Goodwin, David A. Neal, C. E. Barrett, Josiah Calef, J. D. Lang, Thos. West, James Hayward, Esqs. And at a subsequent meeting of the board of directors, Ichabod Goodwin, Esq., was chosen President, James Sweetser, Esq., Treasurer, and C. E. Barrett, Esq., Clerk of the Company.

Providence Railroad.

At a meeting of the Stockholders of the Boston and Providence railroad, June 6, Charles H. Warren, Wm. Appleton, George R. Russell, William Amory, Joseph Grennell, Wm. Dwight and John Barstow were chosen Directors. Mr. Dwight is the only new director, and he takes the place of Ignatius Sargent, resigned. A motion to have a supervisory committee of stockholders was voted down.

Railway Share List,

ON A PAR OF $100 ACCORDING TO THE LATEST SALES.—CORRECTED EVERY WEDNESDAY.

NAME OF COMPANY.	Length of line.	Length of branches.	Miles finished.	Cost of road and equipment.	Cost per mile.	Capital st'k paid in.	Debts more than surplus.	Ruling grade.	Earnings 1848.	Expenses 1848.	Net earnings 1848.	Rate of dividend in 1848.	Price of shares.	Remarks.
Atlantic and St. Lawrence	146	....	36	In progress.	.....	.....	.....	..	.....	.....	.....	.....	78 a 81	
Androscoggin & Kenneb.	55	....	6	In progress.	.....	.....	.....	..	.....	.....	.....	.....	70	
Albany and Schenectady.	16¼	....	16¼	$1,606,196	100,000	.....	.....	..	.....	.....	.....	1 5-9	89	
Auburn and Rochester...	78	....	78	2,644,520	34,000	.....	.....	..	175,922	.....	.....	8	86a87	
Auburn and Syracuse....	26	....	26	1,125,886	43,300	.....	.....	..	454,721	.....	.....	2 9-10	79a80	
Attica and Buffalo.....	31½	....	31½	821,313	26,000	.....	.....	..	172,185	.....	.....	4½	.....	
Allegbany Portage.....	36	....	36	.....	.....	.....	.....	..	150,959	.....	.....	....	Leas'd to Western railroad.	
Albany and W. Stockb...	38½	....	38½	1,924,701	50,000	.....	.....	..	.....	.....	.....	....		
Annapolis and Elkridge..	21	....	21	.....	.....	.....	.....	..	.....	.....	.....	....		
Bangor and Oldtown....	11¼	....	11¼	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Boston and Lowell.....	25½	1½	27½	2,013,687	73,200	1,800,000	.....	10 up, 30 down.	461,339	268,707	192,631	8	118½	
Boston and Maine.....	74½	5	79½	3,571,832	45,000	3,249,804	249,715	47½	511,627	264,534	247,893	8½	101a102	
Boston and Worcester...	44½	22	66½	4,960,000	74,700	4,500,000	460,000	40	716,284	406,303	310,080	8½	106a107	
Boston and Providence...	41	6½	47½	3,031,106	63,800	2,893,300	26,878	37½	354,375	183,361	170,013	6½	95	
Bost., Concord and Mont.	90	....	38	In progress.	.....	.....	.....	..	.....	.....	.....	.....	82a85	
Berkshire.....	21	....	21	600,000	28,500	.....	.....	..	.....	.....	.....	7	.....	
Buffalo and Niagara.....	22	....	22	250,396	11,500	.....	.....	..	60,014	.....	.....	6 1-3	.....	
Buffalo and Black Rock.	3	....	3	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Baltimore and Susqueh'a.	36	....	36	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Beaver Meadow.....	26	....	26	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Buck Mountain.....	....	....	4	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Baltimore and Ohio...	....	....	178	13,136,940	61,900	.....	.....	..	1,468,828	805,530	663,198	.....	40 a 41	
Washington Branch.	....	....	31											
Frederick Branch..	....	....	3											
Calais and Baring.....	3	....	3	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Concord	34	....	34	.....	.....	1,350,000	.....	..	311,326	180,699	130,639	.....	122	
Cheshire	54	....	54	2,584,143	48,000	1,453,379	1,140,764	60	.....	.....	.....	.....	72	
Connecticut and Passump.	115	....	40	.....	.....	.....	.....	..	.....	.....	.....	.....	85	
Connecticut River.....	50	2	52	1,589 184	30,500	1,234,970	426,013	32	165,242	95,658	69,583	8	96½	
Cape Cod Branch.....	28	....	28	587,116	20,900	343,000	217,395	40	.....	.....	.....	.....	62	
Corning and Blossburgh..	....	....	40	.....	.....	.....	.....	..	18,069	.....	.....	.....	.....	
Cayuga and Susquehanna	29	....	29	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Camden and Amboy...	61	..	96½	3,200,000	33,000	.....	.....	..	.....	.....	.....	.....	136 a 140	
Trenton Branch.....	6½													
New Brunswick Br..	29													
Columbia.....	82	....	82	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Camden and Woodbury..	9	....	9	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Cumberland Valley.....	....	....	52	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Carbondale & Honesdale.	26	....	26	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Chesterfield.....	12	....	12	150,000	13,500	.....	.....	..	.....	.....	.....	.....	.....	
City Point.....	9½	....	9½	195,867	15,919	.....	.....	..	.....	.....	.....	.....	.....	
Central of Georgia.....	191	....	191	3,222,289	16,800	.....	.....	30	516,252	266,450	250,226	.....	80	
Central of New Jersey...	63	....	36	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Dorchester and Milton...	3½	....	3½	114,224	35,100	72,990	41,234	39	.....	.....	.....	.....	.....	
Detroit and Pontiac.....	25	....	25	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Eastern	54	19½	73½	.....	.....	.....	.....	40	.....	.....	.....	8	104a105	
Essex (Salem to Law.)...	22½	....	22½	421,574	18,700	263,746	160,958	55	.....	.....	.....	.....	.....	
Erie and Kalamazoo.....	33	....	33	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Fall River.....	42	....	42	1,145,982	27,300	1,050,000	83,177	45	184,344	109,390	74,953	7½	87	
Fitchburgh.....	49½	6½	56	2,945,630	52,300	2,735,910	67,504	..	486,265	286,046	200,219	8½	114½	
Franklin.....	....	....	22	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Greensville and Roanoke.	21	....	21	283,917	13,500	.....	.....	..	.....	.....	.....	.....	.....	
Germantown Branch.....	6	....	6	.....	.....	.....	.....	..	.....	.....	.....	.....	88 a 90	
Gaston and Raleigh.....	96	....	96	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Georgia (Augusta to At'a)	171	....	210	.....	.....	.....	.....	40	477,052	267,173	209,879	.....	121	
Athens Branch.....	....	39												
Harrisburg and Lancaster	37	....	37	.....	.....	.....	.....	..	.....	.....	.....	.....	88 a 90	
Hartford and New Haven	62	....	62	.....	.....	.....	.....	17	.....	.....	.....	.....	104 a 105	
Housatonic.....	74	....	74	.....	.....	.....	.....	..	.....	.....	.....	.....	87	
Hudson and Berkshire...	31½	....	31½	818,983	26,500	.....	.....	..	.....	.....	.....	.....	.....	
Hazleton and Lehigh....	10	....	10	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Jackson and Brandon....	13	....	13	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Lexington and W. Camb.	6½	....	6½	252,680	38,900	.....	.....	55	.....	.....	.....	.....	.....	
Lowell and Lawrence....	12½	....	12½	283,248	22,650	.....	.....	45	.....	.....	.....	.....	85	
Long Island.....	98½	....	98½	2,173,646	22,100	.....	.....	..	.....	.....	.....	.....	22½	
Lockport and Niagara...	23	....	23	221,000	9,700	.....	.....	..	.....	.....	.....	.....	.....	
Lewiston.....	3½	....	3½	33,673	10,300	.....	.....	..	.....	.....	.....	.....	.....	
Lykens Valley.....	16	....	16	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Little Schuylkill.....	23	....	23	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Louisa.....	50	....	50	474,137	9,482	.....	.....	..	.....	.....	.....	.....	.....	
Lexington and Frankfort.	29	....	29	450,000	15,600	.....	.....	..	.....	.....	.....	.....	.....	
Little Miami.....	84	....	84	1,513,402	18,000	.....	.....	..	.....	.....	.....	.....	.....	
Machiasport.....	8	....	8	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Morris and Essex.....	....	....	45	.....	.....	.....	.....	80	.....	.....	.....	.....	100	
Mauch Chunk and R. Run	36	....	36	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Mine Hill & Sch. Haven.	25	....	25	.....	.....	.....	.....	..	.....	.....	.....	.....	136	
Mount Carbon.....	7	....	7	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Mt. Carbon & Pt. Carbon	2½	....	2½	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Mill Creek.....	6	....	6	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Montgomery & W. Point	67	....	67	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	

Railway Share List,

ON A PAR OF $100 ACCORDING TO THE LATEST SALES.—CORRECTED EVERY WEDNESDAY.

NAME OF COMPANY.	Length of line.	Length of branches.	Miles finished.	Cost of road and equipment.	Cost per mile.	Capital stk paid in.	Debts more than surplus.	Ruling grade.	Earnings 1848.	Expenses 1848.	Net earnings 1848.	Rate of dividend in 1848.	Price of shares.	Remarks.
Madison and Indianapolis	86	....	86	.....	.....	.....	.....	..	.....	.....	.....	.....	110	
Mad River and Lake Erie	102	....	102	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Mansfield and Sandusky	....	....	56	$1,106,121	19,700	.....	.....	..	.....	.....	.....	.....	.....	
Michigan Central	....	....	221	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Michigan Southern	....	....	70	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Tecumseh Branch	10	....	....	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Macon and Western	....	....	101	.....	.....	.....	.....	30	.....	.....	.....	.....	48a48½	
Mississippi	....	....	30	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Nashua and Lowell	....	....	14½	525,063	36,200	525,000	.....	13	169,187	109,599	59,588	10	.....	
Northern (Ogdensburg)	....	....	12	In progress.		.....	.....	..	.....	.....	.....	.....	.....	
" (Concord to Leb'n.)	69½	}	....	2,762,500	34,000	.....	129,97[illegible]	..	408,455	241,370	167,277	.....	76	
Bristol Branch	12½	}	81½	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
N. Bedford and Taunton	....	....	20	499,065	24,99[illegible]	400,000	.....	40	136,151	96,220	39,225	6	.....	
Norfolk County	....	....	26	621,488	23,900	414,25[illegible]	.....	35	.....	.....	.....	.....	30	
N.Y. & N. Haven (14 mls.	Har	RR)	62	.....	.....	.....	.....	..	.....	.....	.....	.....	86½	
New Haven Canal	....	....	28	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Norwich and Worcester	59	7	66	2,187,829	33,100	.....	.....	32	218,073	170,297	.....	.....	40½	
New York and Harlem	....	....	80½	3,579,567	44,600	.....	.....	..	.....	.....	.....	.....	56½	
New York and Erie	....	....	200	.....	.....	.....	.....	..	.....	.....	.....	.....	63	
New Jersey	....	....	29	.....	.....	.....	.....	..	.....	.....	.....	.....	108 a 110	
Newcastle & Frenchtown	....	....	17	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
N. Orleans and Carrollton	....	....	5½	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Old Colony	37½	7½	45	2,080,903	46,200	1,601,415	683,648	40	227,350	139,592	87,757	6½	78a79	
Oswego and Syracuse	....	....	41	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Portland, Ports. and Saco.	51	....	51	1,350,000	26,400	.....	.....	..	.....	.....	.....	6	96½	
Peterboro' and Shirley	12	....	12	208,311	17,300	.....	.....	..	.....	.....	.....	.....	.....	
Pittsfield and N. Adams.	18½	....	18½	447,755	24,000	.....	.....	66	.....	.....	.....	.....	.....	
Providence and Worcester	43½	....	43½	1,873,895	43,000	.....	573,058	26	193,844	83,889	109,954	.....	82½	
Paterson and Hudson R.	16½	....	16½	.....	.....	.....	.....	..	.....	.....	.....	.....	110a111	
Philadelphia and Trenton	28	....	28	.....	.....	.....	.....	..	.....	.....	.....	10	130 a 140	
Philad. Wilm. and Balt.	97	....	97	6,173,851	66,000	.....	.....	..	638,142	382,608	.....	.....	54	
Philadelphia City	6	....	6	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Philad. Germ. and Nor.	17	....	17	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Philadelphia and Reading	93	....	93	.....	.....	.....	.....	..	.....	.....	.....	.....	38½	
Penn Township	2	....	2	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Petersburg	59	....	59	946,361	16,040	.....	.....	..	163,092	87,131	.....	.....	.....	
Ponchartrain	4½	....	4½	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Pt. Hud., Jack. and Clint.	28	....	28	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Rensselaer and Saratoga.	25	....	25	661,910	26,400	.....	.....	..	.....	.....	.....	.....	.....	
Ramapo and Patterson	15	....	....	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Rich. Fred. and Potomac.	75½	....	75½	1,474,001	19,459	.....	.....	..	206,858	100,568	.....	.....	.....	
Richmond and Petersburg	22	....	22	877,484	39,886	.....	.....	..	.....	.....	.....	.....	.....	
Sullivan	28	....	28	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
South Shore	11½	....	11½	255,748	22,200	135,935	128,075	35	.....	.....	.....	.....	33½	
Stony Brook	13	....	13	246,659	19,000	216,829	29,189	40	.....	.....	.....	.....	.....	
Stonington	50	....	50	.....	.....	.....	.....	..	.....	.....	.....	.....	53	
Saratoga and Washington	40	....	40	948,372	23,700	.....	.....	..	.....	.....	.....	.....	.....	
Syracuse and Utica	53	....	53	1,968,036	37,060	.....	.....	..	677,671	.....	.....	.....	120 a 121	
Schenectady and Troy	20½	....	20½	659,668	32,100	.....	.....	..	47,025	.....	.....	.....	.....	
Saratoga and Schenectady	22	....	22	331,036	15,000	.....	.....	..	57,018	.....	.....	.....	.....	
Summit	2	....	2	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Schuylkill Valley	14	....	14	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Shamokin	22	....	22	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Swatara	4	....	4	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Seabord and Roanoke	....	....	76½	1,519,140	20,460	.....	.....	..	.....	.....	.....	.....	.....	
S. Carolina Main Stem	136	....				.....	.....	..					.....	
Columbia Branch	....	68½	242	5,943,678	24,500	.....	.....	..	800,073	308,802	401,271	.....	.....	
Camden Branch	....	37½				.....	.....	..					.....	
Sangamon and Morgan	56	....	26	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Taunton Branch	....	....	11	305,085	27,600	250,000	.....	35	108,101	90,485	17,615	.....	.....	
Tonawanda	43½	....	43½	974,865	22,400	.....	.....	..	218,301	.....	.....	.....	.....	
Troy and Greenbush	6	....	6	273,625	45,900	.....	.....	..	60,055	.....	.....	.....	.....	
Tuckahoe & James River	4½	....	4½	69,322	14,999	.....	.....	..	.....	.....	.....	.....	.....	
Tallahasse and Port L.	....	....	26	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Tuscumbia and Decatur	...	....	44	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Utica and Schenectady	78	....	78	3,161,688	40,500	.....	.....	..	795,239	.....	.....	10	122a123	
Vermont and Mass	69	....	69	.....	.....	.....	.....	55	.....	.....	.....	.....	43a43½	
Vermont Central	121	....	69	In progress.		.....	.....	..	.....	.....	.....	.....	48a48½	
Vicksburg and Clinton	....	....	46	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Western	117½	....	117½	7,975,452	67 700	.....	.....	83	1,332,068	.....	.....	8	102a102½	
West Stockbridge	2	....	2½	41,515	15,000	.....	.....	..	.....	.....	.....	.....	.....	
Worcester and Nashua	45	....	45	.....	.....	.....	.....	48	.....	.....	.....	.....	50a51½	
Wrightsv, York & Gettys.	...	...	13	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Whitehaven and Wilkes.	...	...	20	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Williamsport and Elmira	...	...	26	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Westchester Branch	...	...	10	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
West Feliciana	...	...	21	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Winchester and Potomac.	...	...	32	509,415	15,919	.....	.....	..	.....	.....	.....	.....	.....	
Wilmington and Weldon	...	...	163	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Westminister Branch	...	...	10	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	
Western and Atlantic	....	....	100	In progress.		.....	.....	..	.....	.....	.....	.....	.....	
York and Maryland Line.	....	....	21	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	

AMERICAN RAILROAD JOURNAL.

Saturday, June 16, 1849.

Plank Roads.

"A Manuel of the Principles and Practice of Road-making; comprising the Location, Construction, and Improvement of Roads, (common, macadam, pared plank etc.) and Railroads." By W. M. Gillespie, A. M. C. E., Professor of Civil Engineering in Union College. New York: published by A. S. Barnes & Co. 1848. 340 pages, octavo.

It is no little pleasure to meet with a practical work like this, distinguished at the same time for its sound science, its strong good sense, and its eminent usefulness. Its subject is of consequence to every person—to the producer, whose goods are transported to a market; to the consumer, who pays for the transportation; occasionally to him, who for pleasure, health or business is transported himself, whether over the smooth railway and the well macadamised turnpike, or the roughnesses and sloughs of our common roads.

The preface of the work commences with the statement that, "*the common roads of the United States are inferior to those of any other civilised country.*" This is no doubt true, and may be explained from the great extent of territory compared with the amount of population, the want of fixedness of a large part of this population, and the attention directed of late to railroads, causing the common roads to be in a great measure neglected. The system adopted throughout the country of making and repairing the roads by the taxes payable in personal service, directed by overseers replaced every year, is shown in the sixth chapter of this book to be a radical evil, involving of necessity bad work with great waste of the money devoted to this purpose.—To make and keep in order the public roads ought to be as much a trade by itself as the making and repairing of public buildings. Skill and experience are required in this business as in any other, and to entrust to new hands, and these often unpaid, a matter affecting directly the comfort and prosperity of every member of the community, bespeaks an oversight and want of prudence somewhat inconsistent with the Yankee character. The author widely recommends to the Legislatures of the several states a re-modelling of the road law. That money be raised by the towns and placed in the hands of a skilful engineer especially qualified for this business; several small adjoing towns employing the same agent. That he should appoint his deputies, and they hire laborers as required. The engineers and deputies giving their whole attention to this important subject. The County Commissioners of some of our states in part perform the duties which would devolve upon the new officer proposed. But even if well qualified, which is not to be expected of them, they cannot give the matter that attention which is due to it. An engineer of experience is alone capable of determining satisfactorily the kind of road required—the mode in which it shall be built, and of making the most judicious contracts for its construction. Even with the advantage of this admirable treatise on roads as a guide, men of good judgment would want some experience to be familiar with the details of the operation.

A suppliment to this work is a little treatise on *Plank Roads*, a subject now attracting much attention in districts where lumber is cheap and the roads interior. They were introduced into Canada, it seems, from Russia, by Lord Sydenham in 1834;—five hundred miles have since been built in the province, and as many more in the state of New York since July, 1846. The track recommended is of plank eight feet long and three inches thick, laid across two sleepers, which run with the road, and are a foot wide and four or five inches thick. The plank may be spiked down or not. The bed of the road is raised and well drained, and graded up for turnouts on one side, adding twelve feet to the width occupied by the plank. The planks are finally covered with fine gravel or sand over an inch in thickness. A double track is rarely necessary.—When required, it had better be a separate eight-foot track, than a wide one of 16 feet. "Over a single track near Syracuse, 161,000 teams passed in two years, averaging over 220 teams per day, and during three days 720 passed daily."

The planking of a single track "will require per mile 8x3x5280–126,720 feet; and on sleepers (2) x1x3x5280–31,680 feet; in all 158,400 feet; or, say, 160,000 feet board measure. *Shaping* the road bed and *laying* the sleepers and planking costs from 30 cents to $1 per rod, according as the line is new, or on an old bed, and the soil easy or hard to work."—"The following estimate gives the extremes of the *cost per mile*:

Plank—160 M.; 4 to $10 per M	$640 to $1,600
Shaping and laying, 30 cts. to $10 per rod	96 to 320
Gate houses; per mile	50 to 150
Engineering and superintendence	100 to 100
Contingencies	100 to 200
	$986 $2,370

This is exclusive of extra earth-work, bridges, culverts, &c.

Instances are given of several plank roads in the state of New York which cost with lumber, at $4 to $5 20 per M.; from $1,300 to about $2,000 per mile.

The durability of the road depends much upon the kind of plank used, amount of travel, &c. The Syracuse and Central Square road, built of hemlock, was worn down an inch by the 161,000 teams. A Canada pine road, travelled two years by 50,000 teams a year, was worn only one-quarter of an inch. The pine roads in Canada last about eight years, varrying from seven to twelve. The sooner the plank is worn out, the quicker the road is paid for. One set of sleepers outlasts the planking.

"A Canadian engineer thinks that $20 per mile would be required the first year to restore the grade when it had settled, to fasten loose planks, &c. For the next five years $10 per mile, and then there would be some planks to be replaced. The repairs would then increase, so as to amount to a renewal of the surface at the end of four years more, making ten for the age of the road."

"Two horses draw two tons with ease upon them; and on a Canada road of 52 miles always carry 16 barrels of flour. On a *level* plank road they easily draw four or five tons."

"Upon the first eight miles of the Syracuse Central Square plank road, the tolls during its first two years ending July, 1848, amounted to $12,900, and the expenses for salaries and repairs to $1,500; leaving $11,400 for dividends and rebuilding. This This amount of travel has worn the plank down one inch. Another inch could be worn down before a renewal would be necessary; and the road would then have earned $22,800 above expenses, or $2,850 per mile."

The tolls established by the New York Plank Road Law, are as follows:—Vehicles drawn by two horses 1½ cents per mile; and half cent for each additional animal; vehicles drawn by one horse ½ cent per mile; for horse and rider, or led horse ½ cent; for every score of sheep, swine or neat cattle one cent per mile.

We commend this work to the consideration of our friends who have written to us for information on the subject of plank roads. We should be happy to publish more of this subject if we could spare the space.

Minifie's Text Book of Mechanical Drawing.

We are happy to call the attention of our readers to an advertisement of this work in another column. It is recommended by artists and gentlemen who are best qualified among us to judge correctly of its merits, as being the most thorough and complete work of the kind ever published in this country, and as indispensable to those whose calling requires a knowledge of the principles of geometrical drawing or sketching, and as a suitable guide and companion to amateurs in this delightful art. It has received universal commendation from the press, and we believe it fully merits all that has been said in its praise.

Blake's Metallic Fire Proof Paint.

This is certainly a remarkable combination of earthy or mineral substances, by which they seem prepared to serve one of the most useful of purposes. One might be tempted to believe that the mine where it is found was the paint shop in the great labratory of Nature, and what has now been discovered is what remained after her work of creation was completed. When first taken from the mine, it can be easily reduced by the thumb and finger to the finest powder. A few days exposure gives it the hardness of a stone. The only use of oil in the preparation, is to aid in putting on the paint, It does not depend in any degree on oil for its adhesive qualities. As soon as applied it unites firmly with the grain of the wood. The longer it remains the closer it adheres, and the harder it grows, and becomes as imperious to fire and water as slate itself. To railroad companies it must be invaluable as affording a fire proof coating for the interior of the depots and engine houses, as well as to all who are desirous of making their buildings fire proof, within and without. For a more detailed description, we refer to the advertisement in another column.

Traffic on the English Railroads.

The returns made to the Railway Commissioners for the year ending June 30, 1848, show the aggregate amount of the traffic on the lines in operation, amounting July 1, 1848 to 4,357¼ miles, as follows:

	Passengers.	Receipts. £	s.	d.
First class	7,190,779	1,792,533	3	8
Second class	21,690,510	2,352,152	11	5¼
Third class	15,241,529	661,038	7	5¼
Parliamentary	13,092,489	902,851	1	8¼
Mixed	749,763	11,807	4	10
Total	57,965,070	5,720,382	9	1¼
Goods, mails, etc	4,213,169	14	14	5¼
Grand total	9,933,552	3	7¼	

☞ Judge Hopkinson of Lowell, has been chosen President of the Boston and Worcester Railroad Co. His acceptance of the office will render necessary his resignation as Judge of the Court of Common Pleas.

☞ The Western Railroad Company have declared a semi-annual dividend of 4 per cent., payable in July. The receipts for the first half year ending June 1st, were $566,000; last year, $572,000—falling off, $6,000.

Portable Steam Engines.

We are happy to call the attention of our readers to an advertisement in another column, of C. W. Bentley & Co., of Baltimore, manufacturers of a compact, portable steam engine, which, possessing sufficient power for ordinary purposes, occupies but a very small space, one of six horse power requiring only a space of three feet by six, and requiring no brick work to set them up. In large cities, like New York and Philadelphia, where room is of more value than any thing else, and where scarcely any branch of industry is now carried on without the aid of the steam engine, the above engines are peculiarly adapted to our printing and manufacturing establishments, and possess those recommendations which should introduce them into general use.

Intercourse of Engineers.

A distinguished engineer at the south in a recent note to us says: "I am pleased with the results of your plan of giving the address of Engineers. I have received many valuable documents, which would not otherwise have reached me. I would cheerfully pay a much larger sum rather than have it discontinued."

Another eminent engineer of the south says: "I have already received benefit from placing my name in your list of Engineers, from the receipt of several documents of interest, from various quarters, by its affording the senders my address."

Essex Railroad.

At a meeting of the Stockholders of this Company, holden in Salem Saturday, June 9th, the following gentlemen were chosen Directors, viz: Benjamin Wheatland, Nathaniel B. Mansfield, Stephen C. Philips, Wm. D. Pickman, of Salem; George Hodges of Andover; Eben Sutton of Danvers; and Francis Freeto of Marblehead.

Hudson River Road.

An election for Directors of the Hudson River road took place on the 11th inst., and resulted in the election of the following gentlemen:

James Boorman, Thomas Leffern, Elisha Peck, John D. Wolfe, Gouverneur Kemble, Jas. Hooker, Japhet Bishop, Moses H. Grinnell, Erastus Corning, Gardner G. Howland, John B. Jervis, Edward Jones and Edwin D. Morgan.

At a subsequent meeting of the board, the following officers were elected: Jas. Boorman, President; Edward Jones, Vice President; John B. Jervis, Chief Engineer; John M. Hopkins, Treasurer; G. B. Butler, Secretary and Legal Agent. Mr. Azariah Flagg was President last year, and Mr. Boorman was Vice President.

Roman Cement,

OF the best quality, now landing from ship Hendrick Hudson, from London, made by Billingsley, Mial & Co., and superior to anything of the kind manufactured in England. For sale by G. T. SNOW,
109 Water Street, New York.

American Pig, Bloom and Boiler Iron.

HENRY THOMPSON & SON,
No 57 South Gay St., Baltimore, Md.,
Offer for sale, *Charcoal Pig Iron* made at the *Catoctin* (Maryland), and *Taylor* (Virginia), *Furnaces*; also *best quality Shenandoah Blooms* and *Boiler Iron* from the mills of Edge & Hilles in Delaware, for which establishments they are agents. The productions of the above works can always be had at the lowest market prices for approved paper.

American Pig Iron of other brands, and Bar Iron, furnished at lowest prices. Agents for Rich & Cos. Fire Proof Salamander Iron Chests.

Baltimore, June 14, 1849. 6 mos

Text Book of Mechanical Drawing,

FOR the use of SCHOOLS and SELF-INSTRUCTION, containing,

1st. A series of progressive practical problems in Geometry, with full explanations, couched in plain and simple terms; showing also the construction of the *parallel ruler, plane scales* and *protractor*.

2d. Examples for drawing *plans, sections* and *elevations* of Buildings and Machinery, the mode of drawing elevations from *circular* and *polygonal* plans, and the drawing of Roman and Grecian Mouldings.

3d. An introduction to *Isometrical drawing*, with 4 plates of examples.

4th. A treatise on *Linear Perspective*, with numerous examples and full explanations, rendering the study of the art easy and agreeable.

5th. Examples for the projection of shadows.

The whole illustrated with 50 STEEL PLATES.

Published by WM. MINIFIE & CO.,
114 Baltimore St., Baltimore, Md.

Price $3, to be had of all the principal booksellers.

ENGINEERS.

Arrowsmith, A. T.,
Buckfield Branch Railroad, Buckfield, Me.

Berrien, John M.,
Michigan Central Railroad, Marshall, Mich.

Clement, Wm. H.,
Little Miami Railroad, Cincinnati, Ohio.

Fisk, Charles B.,
Cumberland and Ohio Canal, Washington, D. C.

Felton, S. M.,
Fitchburgh Railroad, Boston, Mass.

Ford, James K.,
New York.

Floyd-Jones, Charles,
New York and Harlem Railroad Extension, Lithgow, Dutchess Co., N. Y.

Gzowski, Mr.,
St. Lawrence & Atlantic Railroad, Montreal, Canada.

Gilbert, Wm. B.,
Rutland and Burlington Railroad, Rutland, Vt.

Grant, James H.,
Nashville and Chattanooga R. R., Nashville, Tenn.

Harry, P.,
Binghamton, New York.

Holcomb, F. P.
Southwestern Railroad, Macon, Ga.

Higgins, B.
Mansfield and Sandusky Railroad, Sandusky City, O.

Johnson, Edwin F.
New York and Boston Railroad, Middletown Ct.

Latrobe, B. H.,
Baltimore and Ohio Railroad, Baltimore, Md.

Miller, J. F.,
Worcester and Nashua Railroad, Worcester, Mass.

Morton, A. C.,
Atlantic and St. Lawrence Railroad, Portland, Me.

McRae, John,
South Carolina Railroad, Charleston, S. C.

Nott, Samuel,
Lawrence and Manchester Railroad, Boston,

Reynolds, L. O.,
Central Railroad, Savannah, Ga.

Roberts, Solomon W.,
Ohio and Pennsylvania Railroad, Pittsburgh, Pa.

Robinson, James P.,
Androscggin & Kennebec Railroad, Waterville, Me.

Schlatter, Charles L.,
Northern Railroad (Ogdensburg), Malone, N. Y.

Stark, George.,
Bost., Con. and Mont. R. R., Meredith Bridge, N. H.

Trimble, Isaac R.,
Philad., Wil. & Baltimore Railroad, Wilmington, Del.

Tinkham, A. W.,
United States Fort, Bucksport, Me.

Thomson, J. Edgar.,
Pennsylvania (Central) Railroad, Philadelphia.

Whipple, S.,
Civil Engineer and Bridge Builder, Utica, N. Y.

Williams, E. P.,
Auburn and Schenectady Railroad, Auburn, N. Y.

Williams, Charles H.,
Milwaukie, Wisconsin.

BUSINESS CARDS.

Manning & Lee,
GENERAL COMMISSION MERCHANTS,
NO. 51 EXCHANGE PLACE,
BALTIMORE.
Agents for Avalon Railroad Iron and Nail Works. Maryland Mining Company's Cumberland Coal 'CED'—'Potomac' and other good brands of Pig Iron.

J. T. Hodge,
EAGLE RIVER P. O., LAKE SUPERIOR.

James Laurie, *Civil Engineer,*
No. 23 RAILROAD EXCHANGE, BOSTON, MASS.
Railroad Routes explored and surveyed. Estimates, Plans and Specifications furnished for Dams, Bridges, Wharves, and all Engineering Structures.
October 14, 1848. 6m*

James Herron, *Civil Engineer,*
OF THE UNITED STATES NAVY YARD,
PENSACOLA, FLORIDA.,
PATENTEE OF THE
HERRON RAILWAY TRACK.
Models of this Track, on the most improved plans, may be seen at the Engineer's office of the New York and Erie Railroad.

Cruse & Burke,
Civil Engineers, Architects and Surveyors,
Office, New York State Institution of Civil Engineers,
STATE HALL, ALBANY., N. Y.
Drawings, specifications and surveys accurately executed. Pupils instructed theoretically and practically at a moderate premium.
May 26, 1849.

Dudley B. Fuller & Co.,
IRON COMMISSION MERCHANTS,
No. 139 GREENWICH STREET,
NEW YORK.

To Railroad Companies.
—WROUGHT IRON WHEELS—
SAFETY AND ECONOMY.
NORRIS' LOCOMOTIVE WORKS,
SCHENECTADY, NEW YORK,
Are Manufacturing Wrought Iron Driving, Truck, Tender, and Car Wheels—made from the best American Iron. Address E. S. NORRIS.
May 16, 1849.

NICOLL'S PATENT SAFETY SWITCH FOR Railroad Turnouts. This invention for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design. It acts independently of the main track rails; being laid down or removed without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two castings and two rails; the latter, even if much worn or used, not objectionable.

Working models of the Safety Switch may be seen at Messrs. Davenport, Bridges & Kirk's Cambridge Port, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained, on application to the Subscriber, Inventor and Patentee. G. A. NICOLLS,
Reading, Pa.

BLAKE'S PATENT FIRE & WEATHER-PROOF PAINT, OR ARTIFICIAL SLATE.

This extraordinary substance is found in a stratum of rock in Sharon, near Akron, Ohio; when taken from the mine it has all the appearance of the finest Indigo, and is no harder than cold tallow; but exposure a few days to the atmosphere turns it to hard *slate* or *stone*; it is reduced to a fine powder, mixed with Linseed Oil to the consistency of thick paint, and applied with a brush, and after an exposure a few months to the atmosphere, this coating becomes a perfect *slate*, protecting whatever covered, from the action of the weather and from fire. It has been found upon analization by Dr. CHILTON, of the city of New York, to consist of larger proportions of Silica, Alumina, and Black Oxide of Iron and Magnesia, with lesser of Lime and Carbon; the transition therefore [according to the opinion of Drs. Chilton and Locke] from the liquid *paint* to the hard *slate* is accounted for according to nature's own laws, as the oil absorbs and evaporates by the action of the atmosphere, the powerful adhesive attraction incident to the Black Oxide of Iron, binds and attracts not only the particles together, but too the substance covered, so that the longer on, the more powerful the attraction, consequently the harder the *slate*, and the closer it will adhere to the substance applied; and as it contains a large amount of Alumina and Magnesia, two of the best non-conductors of heat that we have, consequently the coating [after it turns to slate] is indestructable by fire, therefore it protects the wood from the air, and where there is no air there is no blaze or combustion, the wood therefore will *char* before the coating will give way. It is being used extensively for covering roofs of either shingles, matched boards, tin, zinc, sheet iron, or thick paper; if your shingles have been on for years you have only to sweep off the moss and lint with a stiff broom and cover with two or three good coats and in a few months you have a perfect *slate roof* impervious to the action of *weather* and *fire*.—There is nothing equal to it for Steamboat and Car decks, for all kinds of iron, as it forms a coating nearly as hard as the iron itself and never cleaves off.

It is used upon brick walls both as a paint and cement, it forms a perfect *stone* coating, through which not a particle of moisture can pass; in fact, it is used upon anything you wish to protect from *fire* or *weather*.

The Government has granted a patent to me for the discovery of its application as a fire and weather-proof composition, or artificial slate.

The Fair of the American Institute, held last fall, awarded me a Medal, and the Fair of the State of New York a Diploma. The examining committee of the American Institute, of whom Dr. J. R. Chilton was chairman, and had some three years previous analysed it, states in the report, that it was an article superior to anything that had been presented as a weather and fire proof covering.

I would call the attention of the public to a discovery I made about three years since of an article similar to my black pigment, but instead of its being colored with the black oxide of iron, it is colored with the *red*, giving to the substance a beautiful Chocolate, the fashionable color of the day, for sides of buildings. It does not become quite as hard as the black, consequently is not quite so good for roofs, but is preferred on account of color for sides. I have a large quantity of this now prepared for market and can supply all demands.

LOOK-OUT FOR FRAUD.

For the last few months there have been scores of individuals engaged in digging, grinding and sending to a distance all kinds of stuff, much of it no better than *dirt* from the street or *clay* from any bank, calling it all good *fire* and *weather* proof *paint*, like mine they say, but of a different color. Now it is impossible for them to know anything of the weather proof qualities of this article, as it has not yet been a year since they first commenced digging it, and according to the opinion of Dr. Chilton, of New York., and Dr. Locke, of Cincinnati, this stuff is entirely worthless, as an outside coating, as it has neither the *red* or the *black* oxide of iron in it, consequently there can be no cohesive attraction; therefore, as the action of the atmosphere destroys the oil with which it is applied, it will wash or rub off like chalk or whiting.

Others are mixing enough of mine to give it the color, and selling it as mine. Others are engaged in digging, grinding and offering for sale precisely the same article I have patented, contending that they have a right to sell it in its powdered state, and that those who buy and mix with the oil to make the compound, must take the responsibility of the infringement of the patent.

I therefore will give *notice* to all, that I have instructed my agents throughout the country, to take the *name* and *residence* of every individual who shall buy and mix with oil and use this compound [except from me or my authorised agents] that I shall hold them to a strict accountability, and shall call upon all such to settle with and pay me for thus infringing upon my patent, and in case they refuse I shall commence suits at law against them.

Some of those engaged in this nefarious traffic in order to push their article into market, contend that my patent will not stand; that the substance was known and used for years previous; and a statement to that effect was got up and published by Thomas Caldwell, and signed by several individuals, every one of whom [so far as I know them] was either in the business or preparing to go into it. Now I will not bandy words with a set of men who have not *moral honesty* sufficient to deter them from *stealing*, and appropriating to their own use the inventions and discoveries of others, but will insert a statement of all the officers of the township of Sharon, who have no interest further than to state the truth; the which statement, coming as it does from such a source, must be sufficient to convince any unprejudiced mind of the falsity of their position.

We, the officers of the township of Shanon, will state that we do not believe there ever was a Patent more *honestly* or *laboriously* earned, or more *deservedly* granted than the one granted to Mr. Blake for a weather and fire-proof composition or artificial slate, as he pursued his experiments with the most indomitable perseverance, under very discouraging circumstances, as the public had not the least confidence that there could be anything valuable made from the substance. He therefore had to encounter, for years, the *jeers* and *scoffs* and ridicule of nearly the whole community; and we do not believe that there is one man in a thousand who would have persevered under all the difficulties. But he has at last triumphed over all obstacles; and we believe there is now but one opinion in awarding to him the merit of this valuable discovery.

GEO. W. CRANE, HORACE GIBBS, JNO. EVERHARD, } Justices of Peace.
LEWIS C. CHATFIELD, R. W. MILLS, BFNJ. JONES, } Trustees of Township.
WM. F. EVERETT, Township Clerk.
ALLEN HOWFS, Treasurer.

How is it possible to know anything of the lasting qualities of this Counterfeit stuff? as it is not a year since the first was tried. The Public therefore to be safe should purchase from my Agents, and see that every Barrel is marked "Blake's Patent Fire-proof Paint."

This may certify that we have been acquainted with Blake's Patent Fire-proof Paint for some years, and are well assured that it is really what its name indicates —*fire-proof*. And we will here state to the public that buildings well covered with this paint will be taken at our several offices at lower rates of insurance than those covered with tin or zinc, as we consider it a better fire proof.

H. K. SMITH, Sec. Summit Mutual Fire Ins. Co.
DAN'L S. LEE, Agt. Medina Co. Mutual Ins. Co.
D. B. HADLEY, Agt. Stark Mutual Insurance Co.
Akron, March 5, 1849.

—

MR. BLAKE—Dear Sir: From the nature of my business, I have had my attention turned for several years to your "*Patent Fire-proof Paint*," and as a protection against fire to those buildings to which it is thoroughly applied I consider it preferable to *tin* or *zinc*.

R. F. CODDING, Agt. Portage & Farmer's
Copley, April 12, 1849. Insurance Co.

—

We, the undersigned, in our statement to Caldwell, had reference only the grinding or fineness of the different paints, and we will further state that [aside from BLAKE'S PATENT] we feel it a duty we owe to Mr. Blake to purchase of him, as no others had anything to do with Fire-proof Paint, until after Mr. B. by *years of experiments*, had discovered its value and introduced it to the public.

R. A. STINEHOUR, L. C. NOTT, S. J. MILLER, } Painters.
Akron, April 9, 1849.

—

MR. BLAKE—Dear Sir: I had a building adjoining the wall of my Stone Cotton Factory, the roof of which was covered with your Fre-proof Paint, or Artificial Slate. The factory took fire, and during the progress of its destruction, large numbers of burning shingles and other combustible materials fell upon this roof, so covered, and I expected every moment to see it burst into flames, but after the factory burned down I examed said roof and found it literally covered with coals and cinders, but the fire had not made the least impression upon it. After this test, there certainly can be no doubt as to its fire-proof qualities. SETH C. JONES.
Rochester, N.Y., Sept. 1848.

—

AMERICAN HOTEL,
Broadway, New York, Oct. 4, 1848.

MR. BLAKE—Dear Sir: We last Spring covered the roof of the American with your Fire-proof Paint. We now find that it has become as hard as slate, and the almost constant tread of the servants [who use the top of the house for drying clothes] does not affect it in the least, and it proves all that it was recommended.

TABER & BAGLEY.

We, the undersigned, inhabitants of Sharon, have for the last three years watched with much interest the trial of Blake's Metalic Fre-proof Paint found in this town, we have covered our houses with this fire-proof paint, and can now with confidence state to the public that it is an article of great value; that the sun, rain or frost has no other effect than to turn it to stone, so that we now have to all intents a perfect *Slate roof*, and so perfectly does it protect the roof from moisture that frequently several gallons of dew runs from the eaves in the morning; and where there is no moisture there is no decay, and the rain that falls from the roof is as pure and clear as the purest *Spring water*, and from the nature of the article it must be an excellent FIRE PROOF; we therefore can unite in recommending it to the public, and believe that no good building where shingles are used ought to be left *unslated*.

Wm. Chatfield, Joseph W. Crane, Wm. Ingham,
Adam Kooder, Thomas Rhodes.
Shanon, June 1, 1847. —

All Letters and Communications addressed to the Patentee, at No. 3 Broad street, near Wall, New York, or at Akron, Ohio, will meet with prompt attention.

WM. BLAKE,
Patentee of Fire-proof Paint.

DIRECTIONS. Mix the Powder with Linseed Oil to the consistency of Thick Pain, and apply two or three good coats with a common paint brush, being careful to keep the paint well stirred in the pot while putting on. 100 lbs. will cover the roof of a building 33 feet square, or 1,000 superficial feet.

IRON.

THE NEW JERSEY IRON CO'S WORKS AT Boonton, are now in full operation, and can execute orders for Railroad Bars of any required pattern, equal in quality to any made in this country. Apply to J. F. MACKIE,
Nos. 85 and 87 Broad St.
New York, June 8, 1849.

Iron.

THE Works of the New Jersey Iron Company at Boonton, N. J., having been recently enlarged and put in good repair, the company are prepared to receive orders for Iron, which will be executed with dispatch; and they warrant their iron equal in quality and finish to any in this country.

½ Round and square, to 6 inches,
½ Flat 4 "
Ovals, half-ovals and half-round.
Hoop, band and scroll iron.
Nail plates, superior charcoal Horse shoe,
Iron, sheet and Boiler iron,
Tire iron for locomotives,
Railroad spikes,
Pig iron of superior quality for chilling.
do, for foundry purposes,

For sale by JOHN F. MACKIE,
85 & 87 Broad Street,
Sole agent for the New Jersey Iron Co,
June 9, 1849.

American and Foreign Iron.

FOR SALE,

300 Tons A 1, Iron Dale Foundry Iron.
100 " 1, " " "
100 " 2, " " "
100 " " Forge "
400 " Wilkesbarre " "
100 " "Roaring Run" Foundry Iron.
300 " Fort " "
50 " Catoctin " "
250 " Chikiswalungo " "
50 " "Columbia" "chilling" iron, a very superior article for car wheels.
75 " "Columbia" refined boiler blooms.
30 " 1 x ¼ Slit iron.
50 " Best Penna. boiler iron.
50 " "Puddled" "
50 " Bagnall & Sons refined bar iron.
50 " Common bar iron.

Locomotive and other boiler iron furnished to order.
GOODHUE & CO.,
64 South street
New York.

Railroad Iron.

OF approved T patterns, weighing 56 to 60 lbs. per lineal yard, made by the best English manufacturers, and under our own specification and inspection.
In store and to arrive. For sale by
DAVIS, BROOKS, & CO.,
68 Broad street.
New York, June 1, 1849. tf

☞ The above will favorably compare with any other rails.

Railroad Iron.

100 Tons 2½ x ½, | 30 Tons Railroad.
All fit to re-lay. For sale cheap by
PETTEE & MANN,
228 South St., New York.
May 16, 1849.

MANUFACTURE OF PATENT WIRE ROPE and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers, etc, by
JOHN A. ROEBLING, *Civil Engineer*,
Pittsburgh, Pa.

These *Ropes* are now in successful operation on the planes of the Portage railroad in Pennsylvania, on the Public Slips, on Ferries, and in Mines. The first rope put upon Plane No. 3, Portage railroad, has now run four seasons, and is still in good condition.

American Cast Steel.

THE ADIRONDAC STEEL MANUFACTURING CO. is now producing, from American iron, at their works at Jersey City, N.J., Cast Steel of extraordinary quality, and is prepared to supply orders for the same at prices below that of the imported article of like quality. Consumers will find it to their interest to give this a trial. Orders for all sizes of hammered cast steel, directed as above, will meet with prompt attention.
May 26, 1849.

SPRING STEEL FOR LOCOMOTIVES, TENDERS AND CARS.—The subscriber is engaged in manufacturing spring steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address J. F. WINSLOW, *Agent*,
Albany Iron and Nail Works.

Pig and Bloom Iron.

THE Subscribers are Agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniata Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by
A. WRIGHT & NEPHEW,
Vine Street Wharf, Philadelphia.

Railroad Iron.

RAILROAD IRON & LOCOMOTIVE TIRES imported to order, and constantly on hand, by
A. & G. RALSTON,
4 South Front St., Philadelphia.

Railroad Iron.

THE UNDERSIGNED ARE PREPARED TO contract for the delivery of English Railroad Iron of favorite brands, during the Spring. They also receive orders for the importation of Pig, Bar, Sheet, etc. Iron. THOMAS B. SANDS & CO.,
22 South William street,
February 3, 1849. New York.

Railroad Iron.

THE MOUNT SAVAGE IRON WORKS, Alleghany county, Maryland, having recently passed into the hands of new proprietors, are now prepared, with increased facilities, to execute orders for any of the various patterns of Railroad Iron. Communications addressed to either of the subscribers will have prompt attention. J. F. WINSLOW, *President*
Troy, N.Y.
ERASTUS CORNING, Albany.
WARREN DELANO, Jr., N.Y.
JOHN M. FORBES, Boston.
ENOCH PRATT, Baltimore, Md.
November 6, 1848.

Railroad Iron, Pig Iron, &c.

600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2½ by ½ Flat Bars.
25 Tons of 2½ by 9-16 Flat Bars.
100 Tons No. 1 Gartsherrie.
100 Tons Welsh Forge Pigs.
For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., *Philadelphia.*

Railroad Iron.

THE SUBSCRIBERS ARE PREPARED TO take orders for Railroad Iron to be made at their Phœnix Iron Works, situated on the Schuylkill River, near this city, and at their Safe Harbor Iron Works, situated in Lancaster County, on the Susquehannah river; which two establishments are now turning out upwards of 1800 tons of finished rails per month.
Companies desirous of contracting will be promptly supplied with rails of any required pattern, and of the very best quality.
REEVES, BUCK & CO.,
45 North Water St., Philadelphia.
March 15, 1849.

Railroad Iron.

THE Undersigned offer for sale 3000 Tons Railroad Iron at a fixed price, to be made of any required ordinary section, and of approved stamp.
They are generally prepared to contract for the delivery of Railroad Iron, Pig, Bar and Sheet Iron—or to take orders for the same—all of favorite brands, and on the usual terms. ILLIUS & MAKIN.
41 Broad street.
March 29, 1849. 3m.13

Railroad Iron.

THE TRENTON IRON COMPANY ARE NOW turning out one thousand tons of rails per month, at their works at Trenton, N. J. They are prepared to enter into contract to furnish rails of any pattern, and of the very best quality, made exclusively from the famous Andover iron. The position of the works on the Delaware river, the Delaware and Raritan canal, and the Camden and Amboy railroad, enables them to ship rails at all seasons of the year. Apply to
COOPER & HEWITT, *Agents.*
17 Burling Slip, New York.
October 30, 1848.

Iron Wire.

REFINED IRON WIRE OF ALL KINDS, Card, Reed, Cotton-flyer, Annealed, Broom, Buckle, and Spring Wire. Also all kinds of Round, Flat or Oval Wire, best adapted to various machine purposes, annealed and tempered, straightened and cut any length, manufactured and sold by
ICHABOD WASHBURN.
Worcester, Mass., May 25, 1849.

WILLIAM JESSOP & SONS' CELEBRATED CAST-STEEL.

The subscribers have on hand, and are constantly receiving from their manufactory,
PARK WORKS, SHEFFIELD,
Double Refined Cast Steel—square, flat and octagon.
Best warranted Cast Steel—square, flat and octagon.
Best double and single Shear Steel—warranted.
Machinery Steel—round.
Best and 2d gy. Sheet Steel—for saws and other purposes.
German Steel—flat and square, "W. I. & S." "Eagle" and "Goat" stamps.
Genuine "Sykes," L Blister Steel.
Best English Blister Steel, etc., etc., etc.
All of which are offered for sale on the most favorable terms by WM. JESSOP & SONS,
91 John street, New York.
Also by their Agents—
Curtus & Hand, 47 Commerce street, Philadelphia.
Alex'r Fullerton & Co., 119 Milk street, Boston.
Stickney & Beatty, South Charles street, Baltimore.
May 6, 1848.

LAP—WELDED WROUGHT IRON TUBES

FOR

TUBULAR BOILERS,

FROM 1 1-2 TO 8 INCHES DIAMETER.

These are the ONLY Tubes of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers
THOMAS PROSSER,
Patentee.
28 Platt street, New York.

PATENT HAMMERED RAILROAD, SHIP & BOAT SPIKES. — The Albany Iron Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes from 2 to 12 inches in length, and of any form of head From the excellence of the material always used in their manufacture, and their very general use for rail roads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscribers at the works will be promptly executed.
JOHN F. WINSLOW, *Agent.*
Albany Iron and Nail Works, Troy, N. Y.
The above Spikes may be had at factory prices, of Erastus Corning & Co Albany; Merritt & Co., New York; E. Pratt & Brother, Baltimore Md

Monument Foundry.

A. & W. DENMEAD & SON,
Corner of North and Monument Sts.,—Baltimore,
HAVING THEIR
IRON FOUNDRY AND MACHINE SHOP
In complete operation, are prepared to execute faithfully and promptly, orders for
Locomotive or Stationary Steam Engines,
Woolen, Cotton, Flour, Rice, Sugar Grist, or Saw Mills,
Slide, Hand or Chuck Lathes,
Machinery for cutting all kinds of Gearing.
Hydraulic, Tobacco and other Presses,
Car and Locomotive patent Ring Wheels, warranted,
Bridge and Mill Castings of every description,
Gas and Water Pipes of all sizes, warranted,
Railroad Wheels with best faggotted axle, furnished and fitted up for use, complete

☞Being provided with Heavy Lathes for Boring and Turning Screws, Cylinders, etc., we can furnish them of any pitch, length or pattern.

☞ Old Machinery Renewed or Repaired—and Estimates for Work in any part of the United States furnished at short notice.
June 8, 1849.

Large Wooden Pumps.

SEVERAL Large Wooden Square Pumps, of various sizes from 6 to 24 inches, and lengths from 10 to 25 feet, strongly bolted and strapped together with wrought iron; and used to great advantage on the Boston Water works; also two screw pumps each 25 feet long and 2½ feet in diameter, are now for sale by the Boston Water Commissioners.

For further particulars inquire at No. 119 Washington Street, Boston, or of E. S. CHESBROUGH, West Newton.

June 8, 1849.

P. S. DEVLAN & CO's Patent Lubricating Oil.

THE Subscribers invite the attention of Railroads, Steamboats, Machinists, etc., to the above article of Oil; they are prepared to supply it in any quantity. Certificates of its superiority over all other oils, from several of the largest Works and Railroads, can be seen at our office. KENNEDY & GELSTON,

5½ Pine street, New York,

Sole Agents for the New England States and State of New York. 1y14

TO RAILROAD COMPANIES AND MANUfacturers of Railroad Machinery. The subscribers have for sale American and English Bar Iron, of all sizes; English Blister, Cast, Shear and Spring Steel; Juniata Rods; Car Axles, made of double refined iron; Sheet and Boiler Iron, cut to pattern; Tires for Locomotive Engines, and other railroad carriage wheels, made from common and double refined B. O. Iron; the latter a very superior article. The Tires are made by Messrs. Baldwin and Whitney, Locomotive Engine Manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside.

THOMAS & EDMUND GEORGE,

a45 N. E. cor. 12th and Market sts., Philad., Pa.

MACHINE WORKS OF ROGERS KETCHUM & GROSVENOR, *Patterson, N. J.* The undersigned receive orders for the following articles manufactured by them of the most superior description in every particular. Their works being extensive, and the number of hands employed being large, they are enabled to execute both large and small orders with promptness and dispatch.

Railroad Work.—Locomotive Steam Engines and Tenders; Driving and other Locomotive Wheels, Axles Springs and Flange Tires; Car Wheels of Cast Iron a variety of patterns and chills; Car Wheels of Cast Iron with wrought tires; Axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and millwright work generally, hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,

Patterson, N. J., or 60 Wall St., New York.

To Railroad Companies and Contractors.

FOR SALE.—Two Locomotive Engines and Tenders, at present in use on the Beaver Meadow Railroad, being too light for their coal trains, but well calculated for either gravel or light passenger trains.

They weigh, in running order, about 8 tons each—having one pair of driving wheels 4 feet diameter, 4 truck wheels 30 inches diameter, with cylinders 10 in. diameter, and 18 inches stroke of piston. Tenders on 4 wheels. Address JAMES ROWLAND,

Prest. Beaver Meadow Railroad & Coal Co., Philadelphia.

or, L. CHAMBERLAIN, Sec'y, at Beaver Meadow, Pa.

May 19, 1849. 20tf

India-rubber for Railroad Cos.

RUBBER SPRINGS—*Bearing and Buffer—Fuller's Patent—Hose* from 1 to 12 inches diameter. Suction Hose. *Steam Packing*—from 1-16 to 2 in. thick. *Rubber and Gutta Percha Bands.* These articles are all warranted to give satisfaction, made under Tyer & Helm's patent, issued January, 1849.—No lead used in the composition. Will stand much higher heat than that called "Goodyear's," and is in all respects better than any in use. Proprietors of railroads do not be overcharged by pretenders.

HORACE H. DAY,

Warehouse 23 Courtlandt street.

New York, May 21, 1849.

Large Pumps.

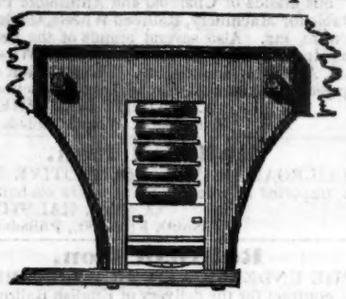
THE Boston Water Commissioners offer for sale a large number and variety of Wooden Square Pumps, used in clearing excavations from water during the construction of the Aqueducts.

Also Two Large Screw Pumps, each 25 feet long and 2½ feet in diameter.

For further particulars, enquire at the office of the Water Commissioners, 119 Washington St., Boston, or of E. S. Chesbrough, West Newton.

May 19, 1849. 6w20

Patent India-rubber Springs.



FULLER & CO. beg that parties interested in the use of these Springs will not be misled by ex-parte statements, but will examine the actual Patents and judge for themselves.

The statements made by Messrs. Crane & Ray shall be treated seriatim.

They claim to have first introduced India-rubber Springs about two years since, whereas they were used by Fuller & Co. nearly four yeas ago.

They claim the exclusive right to use Sprngs. They have no right whatever; every spring they make is an infringement upon Fuller's patent, dated 1845. They claim the sole right to make India rubber, and apparently think because a species of India-rubber was patented some years since, that no person can make any other now. A patent was *granted in January last* to Messrs. Tyer & Helm for a new and improved kind of Vulcanized rubber which is used by Fuller & Co.

Fuller's springs it is needless to say are in very general use, although Messrs. Crane & Ray pretend that they know of only one or two instances. Fuller & Co. guarantee all parties who use their springs.

As to the Legal proceedings—an action has been commenced against one company for an alleged infringement of Goodyear's patent, but is being defended with every prospect of success. An action has also been commenced by Fuller & Co., against parties for an infringement of Fuller's patent, and *this will be done in every case of violation.*

In every case in which Fuller's spring has been applied, it has been pronounced superior to that made by Mr. Ray, and this fact induces Messrs. Crane & Ray to claim the right of using it. They attempt to lead the public from the real question at issue, by producing a Deposition as to Mr. Ray having *tried to make* a spring which Mr. Fuller *did make* and patent. If Mr. Ray did invent a spring in 1844, why did he not apply for a patent, and not wait until 1848, when his application was rejected!

Mr. Knevitt has never stated that the springs were put on by him, which are refered to in Mr. Hale's article, but he does state that those springs are made according to Mr. Fuller's specification, and consequently are an infringement upon it. The article of Mr. Hale in the Boston Advertiser, quoted by Messrs Crane & Ray, was followed immediately by a letter in the same paper, from Mr. Knevitt, setting forth the facts of the case.

The springs refered to were put on by Mr. Ray before Mr. Knevitt came to the United States; when he arrived he gave Mr. Ray notice not to proceed further in making or vending such springs; Mr. Ray then said he did not wish to infringe, and would not continue to do so, and he then contrived an India-rubber and Air spring which totally failed.

In the selection of their first agent, Fuller & Co. were particularly unfortunate, and their reason for adverting to it is simply that it may tend to throw light on subsequent transactions, and furnish a reply to the remark, "that this opposition was invited by their own delay in getting the thing to work." The individual refered to undertook the agency for Fuller's springs, and left Liverpool on the 1st January, 1847, furnished with a complete set of drawings, models, etc., and every necessary instruction to make arrangements respecting the supply of material, and to have it at work within the time limited by law; but *from that hour to the present, not a single communication has been received from the said agent.* Some of their models, however, they have traced into the hands of parties now seeking to invade their rights, and by whom they understand they have been exhibited as specimens of their own invention.

The superiority of Fuller's spring is implied in the offer of the New England Car Co. to make springs upon his principle (now that a preference is given to the disc and plate form) and this notwithstanding the fact, that Fuller & Co. have a patent, and that Mr. Ray's application for one was rejected. The public can judge which company's course has been the most honorable, or whose statements are entitled to consideration.

Fuller's springs can be obtained of *Mr. Knevitt* the Agent, at 38 Broadway New York, and of *Messrs. James Lee & Co.*, 18 India Wharf, Boston.

May 26, 1849.

To Contractors.

OHIO AND PENNSYLVANIA RAILROAD.

Proposals will be received at the office of the Ohio and Pennsylvania railroad Co., in the city of Pittsburgh, until SATURDAY, the 30th of JUNE, 1849, for the Grading and Bridging of the Railroad from the mouth of Big Beaver to the State line of Ohio, a distance of about twenty miles. Drawings and specifications of the work to be let may be seen at the office in Pittsburg, during the week before the letting, on application to Solomon W. Roberts, Chief Engineer; and information may be obtained at any time at the office of Edward Warner, Resident Engineer of the Eastern Division, New Brighton, Beaver county, Pa. The work is well worthy of the attention of experienced and energetic contractors, and the line passes through a fertile country, and is easy of access at all points.

By order of the Board of Directors.

WM. ROBINSON, Jr., President.

Pittsburgh, May 21, 1849.

Extension of the Baltimore & Ohio Railroad.

TO CONTRACTORS FOR GRADUATION AND MASONRY.

PROPOSALS are invited for the graduation and masonry of about 25 miles more of this road, beginning at a point some 64 miles west of Cumberland, and ending at a point about 13 miles west of Cheat river, embracing all the sctions from No. 64 to No. 88, both inclusive. The graduation on nearly all of these sections will be heavy, and will include one Tunnel of considerable length and three short ones. There will be also two Viaducts of medium size.

Specifications and plans of the work will be ready for distribution to proposers by the 13th of June, prox., at the Company's office in Cumberland. The proposals will be addressed to the undersigned, and will be received up to Saturday, July 7th, inclusive, at the same place. Proposers are earnestly requested to examine the line closely before bidding, and to avail themselves of the ample means of information of the value of the work, which will be furnished them, as contractors from a distance, accustomed to more difficult excavations than these to be met with on this line, will otherwise be likely to make their estimates too high. The best testimonials will be required, and an energetic prosecution of the work will be necessary. The payments will be cash, with the usual reservation of one-fifth till the completion of the contract. By order of the President and Directors. BENJ. H. LATROBE,

Baltimore, May 31, 1849. Chief Engineer.

C. W, Bently & Co.,

PORTABLE Steam Engine and Boiler Manufacturers, East Falls Avenue, near Pratt St. Bridge, BALTIMORE, MARYLAND.

Their Engines are simple in their construction, compact and durable; they require no brick work in setting them, and occupyidg but a small space (a six horse power engine and boiler, standing on a cast iron plate of three by six feet.)

They also manufacture Major W. P. Williamson's new oscillating Engine; a superior article, combining cheapness and simplicity (one of which may be seen in operation at their shop.) Both of these engines are adapted to any purpose where power is requir may be made of any capacity; and for econ use of fuel are unsurpassed.

All kinds of machinery made to order. Ste erators, Force Pumps, Wrought Iron Pipes ings for Steam, Water, Gas, etc., constantly

Baltimore, June 6, 1849,

ENGINE AND CAR WORKS.

DAVENPORT & BRIDGES,

HAVING ASSOCIATED WITH THEM

MR. LEWIS KIRK, OF READING, PA.,

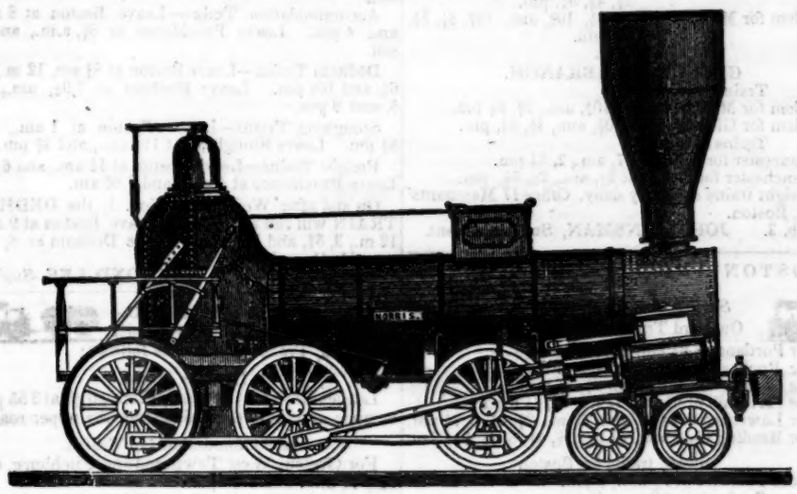
And recently enlarged their Establishment, (making it now the most extensive in the United States,) they are prepared to manufacture to order Locomotive Engines and Cars of every description. Stationary Engines, Steam Hammers, Boilers, and all kinds of Railroad Machinery. Also, Castings and Forge Irons of all kinds—including Chilled Wheels, Frogs, Chairs, Switches, Car Axles, and Locomotive Cranks, Connecting Rods, Steel Springs, Bolts, etc., etc. Orders from all parts of the country solicited for Engines and Cars, or any part or parts of the same. All orders will be furnished at short notice, and on as good terms as any manufactory in the country. Coaches pass our works every fifteen minutes during the day, from Brattle St., Boston.

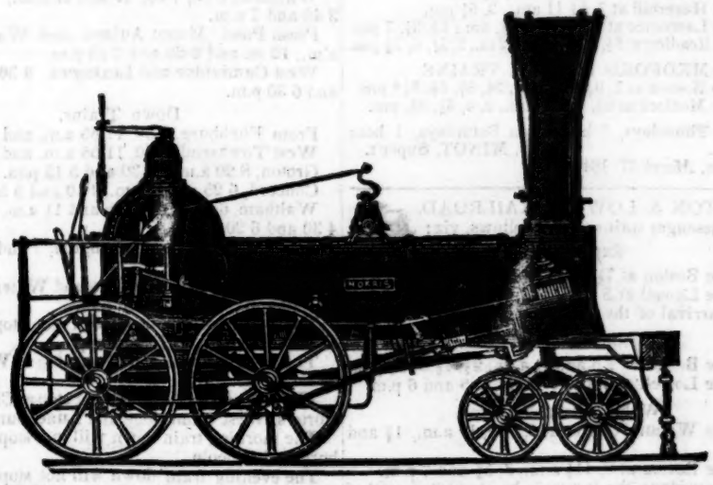
DAVENPORT, BRIDGES & KIRK.

Cambridgeport, Mass., February 16th, 1849.

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speed execution of work in this branch, they can offer to Railway Companies unusual advantages for prom delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chille Wheels for Cars of superior quality.

Wrought Iron Tyres made of any required size—the exact diameter of the Wheel Centre, being gi en, the Tires are made to fit on same without the necessity of turning out inside.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS, BROTHERS.

F. M. Ray's Patent India-rubber Car Springs.

India-rubber Springs for Railroad Cars were first introduced into use, about two years since, by the inventor. The New England Car Company, now possesses the exclusive right to use, and apply them for this purpose in the United States. It is the only concern that has tested their value by actual experiment, and in all arguments in favor of them, drawn from experience of their use, are in those cases where they have been furnished by this company. It has furnished every spring in use upon the Boston and Worcester road, and, in fact, it has furnished all the springs ever used in this country, with one or two exceptions, where they have been furnished in violation of the rights of this company; and those using them have been legally proceeded against for their use, *as will invariably be done in every case of such violation.*

The Spring formed by alternate layers of India-rubber discs and metal plates, which Mr. Fuller claims to be his invention, was invented by Mr. Ray in 1844.—In proof of which we give the deposition of Osgood Bradley, of the firm of Bradley & Rice, of Worcester, Mass., car manufacturers, and men of the highest respectability. In this deposition, in relation to the right of parties to use these springs, he says:

"I have known Mr. Ray since 1835. In the last of May or the commencement of June, 1844, he was at my establishment, making draft of car trucks. He staid there until about the first of July, and left and went to New York. Was gone some 8 or 10 days, and returned to Worcester. He then on his return said he had a spring that would put iron and steel springs into the shade. Said he would show it to me in a day or two. He showed it to me some two or three days afterwards. It was a block of wood with a hole in it. In the hole he had three pieces of India-rubber, with iron washers between them, such as are used under the nuts of cars. Those were put on to a spindle running through them, which worked in the hole. The model now exhibited is similar to the one shown him by Ray. After the model had been put into a vice, witness said that he might as well make a spring of putty. Ray then said that he meant to use a different kind of rubber, and referred to the use of *Goodyear's Metallic Rubber*, and that a good spring would grow out of it." There are many other depositions to the same effect.

The history of the invention of these springs, together with these depositions, proving the priority of the invention of Mr. Ray, will be furnished to all interested at their office in New York.

This company is not confined to any particular form in the manufacture of their springs. They have applied them in various ways, and they warrant all they sell.

The above cut represents precisely the manner in which the springs were applied to the cars on the Boston and Worcester road, of which Mr. Hale, President of this road speaks, and to which Mr. Knevitt refers in his advertisement. Mr. Hale immediately corrected his mistake in the article quoted by Mr. Knevitt, as will be seen by the following from his paper of June 3, 1848. He says:

INDIA-RUBBER SPRINGS FOR RAILROAD CARS.—"In our paper yesterday, we called attention to what promises to be a very useful invention, consisting of the application of a manufacture of India-rubber to the construction of springs for railroad cars. Our object was to aid in making known to the public, what appeared to us the valuable properties of the invention, as they had been exhibited on trial, on one of the passenger cars of the Boston and Worcester railroad. As to the origin of the invention we had no particular knowledge, but we had been informed that it was the same which had been introduced in England, and which had been subsequently patented in this country; and, we were led to suppose that the manufacturers who have so successfully applied this material, in the case to which we referred had become possessed of the right to use that patent. It will be seen from the following communication, addressed to us by a member of the company, by which the Worcester railroad was supplied with the article upon which our remarks were based, that we were in an error, and that the springs were introduced are an American invention, as well as an American manufacture. How far the English invention may differ from it we have had no opportunity of judging."

MR. HALE:—"The New England Car Co., having been engaged for the last six months in introducing the Vulcanized India-rubber Car Spaings upon the different railroads in this and other states, and having in particular introduced it upon the Boston and Worcester railroad with perfect success, were much gratified to find, by your paper of this morning, that the article had given satisfaction to the president of that corporation, and the terms of just commendation in which you were pleased to speak of it. But their gratification was scarcely equalled by their surprise, when, or arriving at the close of your paragraph, they found the results of all their labors attributed to a foreign source, with which the New England Car Co. has no connection. The material used on the Boston and Worcester railroad, and all the other railroads in this country, where any preparation of India-rubber has been successfully applied, is entirely an American invention, patented in the year 1844 to Charles Goodyear, of New Haven, Conn., and the application of it to this purpose and the form in which it is applied are the invention of F. M. Ray of New York. The only material now in use, and so far as has yet appeared, the only preparation of India rubber capable of answering the purpose, has been furnished under these patents by the New England Car Company, manufactured under the immediate inspection of their own agent. If any other should be produced, the right to use it would depend upon the question of its interference with Mr. Goodyear's patent. The New England Car Company have their place of business in this city at No. 99 State street, and are prepared to answer all orders for the Vulcanised India rubber Car Springs, of the same quality and of the same manufacture as those which they have already placed on your road, and most fo the other roads terminating in this city."

And yet Mr. Knevitt is using these experiments made upon the Springs of the Car Company to induce the public to purchase his springs, and is attempting to impose upon them the belief that the springs used were furnished by him! We ask whether such a course is honorable, or entitles his statements to much consideration from the public.

The above Springs are for sale 98 Broadway, New York, and 99 State street, Boston.

EDWARD CRANE Agent, Boston.
F. M. RAY, Agent, New York.

Boston, May 8, 1849.

Devlan's Machinery Oil.

THE Subscribers, Agents for P. S. Devlan & Co's "Patent Lubricating Oil"—price 80c. per gallon 4 mos. or 3 per cent off for cash.

We refer to the following certificate of Messrs. Norris Brothers, in whose works, any one by calling can see the oil in use and judge for themselves.

NORRIS' LOCOMOTIVE WORKS.
Philadelphia, April 2, 1849.

We have been using throughout our Works, during the last six weeks, "Devlan's Lubricating Oil," and so far as we have been able to judge from its use, we think it preferable to the sperm oil generally used, for both heavy and light bearings. NORRIS, BROTHERS.

For sale by ALLEN & NEEDLES,
22 & 23 South Wharves,
14tf Philadelphia Pa.

Coal.

CUMBERLAND SEMI-BITUMINOUS COAL superior quality for Locomotives, for sale by
H. B. TEBBETTS,
No. 5½ Pine St., New York.
May 12, 1849. 1m19

RAILROADS.

NORWICH AND WORCESTER RAILROAD.
Summer Arrangement.—1849.

Accommodation Trains daily (Sundays excepted.)

Leave Norwich at 5 am., and 5 pm.
Leave Worcester at 10½ am., and 4½ pm., connecting with the trains of the Boston and Worcester, Providence and Worcester, Worcester and Nashua and Western railroads.

New York & Boston Line. Railroad & Steamers. Leave New York and Boston daily, Sundays excepted, at 5 pm.—At New York from pier No. 18, North River.—At Boston from corner Beach and Albany streets, opposite United States Hotel. The steamboat train stops only at Framingham, Worcester, Danielsonville and Norwich.

Freight Trains leave Norwich and Worcester daily, Sundays excepted.—From Worcester at 6½ am., from Norwich at 9 am.

32 1y S. H. P. LEE, Jr., Sup't.
May 20, 1849.

EASTERN RAILROAD, Spring and Summer Arrangement. On and after Thursday, March 15,'49,

Trains will leave Eastern Railroad Depot, Eastern Avenue, Commercial-street, Boston, daily, (Sundays excepted.)

For Lynn, 7, 10, a.m., 12, 2½, 3, 4½, 5½, 7, p.m.
Salem, 7, 10, a.m., 12, 2½, 3, 4½, 5½, 7, p.m.
Manchester, 10, a.m., 3, 5½ p.m.
Gloucester, 10, a.m., 3, 5½ p.m.
Newburyport, 7, a.m., 2½, 4½, 7, p.m.
Portsmouth, 7, am., 2½, 4½, pm.
Portland, Me., 7, am., 2½, pm.

And for Boston,

From Portland, 7½, am., 3, pm.
Portsmouth, 7, 9½*, am., 5½*, pm.
Newburyport, 6, 7½, 10½*, am., 6*, pm.
Gloucester, 7, am., 2, 5½ pm.
Manchester, 7½, am., 2½, 5½ pm.,
Salem, 7, 8*, 9*, 10½, 11-40*, am., 2½, 6*,7* pm.
Lynn, 7½, 8½*, 9½*, 10½, 11-55*, am., 3, 6½*, 7½*, pm.

* *Or on their arrival from the East.*

MARBLEHEAD BRANCH.

Trains leave
Marblehead for Salem, 6½, 8½, 10½, 11-25, am. 2½, 4½, 5½, pm.
Salem for Marblehead, 7½, 9½, 10½, am., 12½, 3½, 5½, 6½, pm.

GLOUCESTER BRANCH.

Trains leave
Salem for Manchester at 10½, am., 3½, 6½ pm.
Salem for Gloucester at 10½, am., 3½, 6½, pm.
Trains leave
Gloucester for Salem at 7, am., 2, 5½ pm.
Manchester for Salem at 7½, am., 2½, 5½, pm.
Freight trains each way daily. Office 17 Merchants' Row, Boston.
Feb. 3. JOHN KINSMAN, Superintendent.

BOSTON AND MAINE RAILROAD.

Spring Arrangement, 1849.
Outward Trains from Boston

For Portland at 6½ am. and 2½ pm.
For Rochester at 6½ am., 2½ pm.
For Great Falls at 6½ am., 2½, 4½ pm.
For Haverhill at 6½ and 12 m., 2½, 4½ 6 pm.
For Lawrence at 6½, 9, am., 12 m., 2½, 4½, 6, 7½ pm.
For Reading 6½, 9 am., 12 m., 2½, 4½, 6, 7½, 9½* pm.

Inward trains for Boston

From Portland at 7½ am., 3 pm.
From Rochester at 9 am., 4½ pm.
From Great Falls at 6½, 9½ am., 4½ pm.
From Haverhill at 7, 8½ 11 am., 3, 6½ pm.
From Lawrence at 6, 7½, 8½, 11½, am., 1½, 3½, 7 pm.
From Reading at 6½, 7½, 9, am., 12 m., 2, 3½, 6, 7½ pm.

MEDFORD BRANCH TRAINS.

Leave Boston at 7, 9½ am., 12½, 2½, 5½, 6½, 9½* pm.
Leave Medford at 6½, 8, 10½ am., 2, 4, 5½, 6½, pm.

* On Thursdays, 2 hours; on Saturdays, 1 hour later. CHAS. MINOT, Super't.
Boston, March 27 1849.

BOSTON & LOWELL RAILROAD.
Passenger trains run as follows, viz:

Express Trains.

Leave Boston at 7½ a.m., 12 m. and 5 p.m.
Leave Lowell at 8 a.m., 12 m. and 4 55 p.m.—or on the arrival of the train from Nashua.

Accommodation Trains.

Leave Boston at 7 5 and 9½ a.m., 2½, 4½ & 6½ p.m.
Leave Lowell at 7 and 10 a.m., 2. 5 and 6 p.m.

Woburn Branch Trains.

Leave Woburn Centre at 6, 7, 9, 10 a.m., 1½ and 4½ p.m.
Leave Boston at 8, 11½ a.m., 3, 5½ and 7 p.m.
On Saturdays, the last train leaves at 8 instead of 7 p.m.
The trains from Boston at 7½ a.m., and 5 p.m., and from Lowell at 4 55 p.m., do not stop at Way Stations. The trains from Lowell at 8 a.m. and from Boston and Lowell at 12 m., stop at no way station except Woburn Watering Place, and there only for Upper Railroad Passengers.

WALDO HIGGINSON,
Agent Boston and Lowell Railroad Cor.
Boston March 5, 1849. 22tf.

ESSEX RAILROAD—SALEM to LAWRENCE, through Danvers, New Mills, North Danvers, Middleton, and North Andover.

On and after Thursday, March 15, trains leave daily (Sundays excepted,) Eastern Railroad Depot, Washington-st.

Salem for South Danvers at 8, am., 12.45, 3.45, 6.30, pm.
Salem for North Danvers at 8, am., 12.45, 3.45, pm.
Salem for Lawrence, 8, am., 3.45, pm.
" North Andover 8, am., 3.45, pm.
" Middleton 8, am., 3.45, pm.
South Danvers for Salem at 6.45, 10.15, am., 2·15, 5.45, pm.
North Danvers " 10, am., 2, 5.40, pm.
Middleton " 9 45, am., 5 15, pm.
North Andover " 9.20, am., 5.05, pm.
Lawrence " 9 15, am., 5, pm.

JOHN KINSMAN, Superintendent.
Salem, Oct. 2, 1848.

BOSTON AND PROVIDENCE RAILROAD.
On and after MONDAY, APRIL 2d, the

Trains will run as follows:—

Steamboat Train—Leave Boston at 5 pm Leaves Providence on the arrival of the train from Stonington.

Accommodation Trains—Leave Boston at 8 am., and 4 pm. Leave Providence at 8½, a.m., and 4, pm.

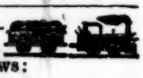
Dedham Trains—Leave Boston at 8½ am, 12 m., 3½, 6½, and 10½ pm. Leave Dedham at 7,9½, am., 2½, 5, and 8 pm.

Stoughton Trains—Leave Boston at 1 am., and 5½ pm. Leave Stoughton at 11½ am., and 3½ pm.

Freight Trains—Leave Boston at 11 am., and 6 pm. Leave Providence at 4 am., and 7.40 am.

On and after Wednesday, Nov. 1, the DEDHAM TRAIN will run as follows: Leave Boston at 9 am., 12 m., 3, 5½, and 10½ pm. Leave Dedham at 8, 10½, am., 1½, 4½, and 9 pm.

WM. RAYMOND LEE, Sup't.

FITCHBURG RAILROAD.—

On and after Monday, April 23d, 1849, Trains will run as follows:

Express Train.

Leaves Boston at 7½ a.m.; Fitchburgh at 3 55 p.m. or upon arrival of the trains from the upper roads.

Accommodation Up Trains.

For Groton, West Townsend and Fitchburg, 6 50 and 11 a.m. and 3 40 p.m.
Concord, 6 50 and 11 a.m., 3 40 and 7 p.m.
Waltham, 6 50, 7 35, 10 and 11 a.m., 1 45, 3 25, 3 40 and 7 p.m.
Fresh Pond, Mount Auburn and Watertown, 9 a.m., 12 m. and 2 20 and 7 15 p.m.
West Cambridge and Lexington, 9 30 a.m., 2 30 and 6 30 p.m.

Down Trains.

From Fitchburg, 7 50, 11 55 a.m. and 4 40 p.m.
West Townsend, 7 30, 11 55 a.m. and 4 40 p.m.
Groton, 8 20 a.m., 12 30 and 5 15 p.m.
Concord, 6 25 and 9 a.m., 1 10 and 5 55 p.m.
Waltham, 6 50, 8 15, 9 25 and 11 a.m, 1 35, 2 35, 4 30 and 6 20 p.m.
West Cambridge and Lexington, 7 and 11 15 a.m and 4 45 p.m.
Fresh Pond, Mount Auburn and Watertown, 7 15 and 10 a.m., 1 30 and 4 30 p.m.
The 6 50 a.m. up train will not stop at Stony Brook, Lincoln and Lunenburg.
The 11 a.m. up train will not stop at Weston and West Acton.
The 3 40 pm. up train will not stop at Charlestown Porters, West Cambridge and Lunenburg.
The morning train down will not stop at Lunenburg and Lincoln.
The evening train down will not stop at Lunenburg and Stony Brook.

S. M. FELTON, Superintendent.
Boston, April 21, 1849. 22tf

CORROSIVE SUBLIMATE.

THIS article now extensively used for the preservation of timber, is manufactured and for sale by POWERS & WEIGHTMAN, manufacturing Chemists, Philadelphia.
Jan. 20, 1849.

NEW YORK AND ERIE RAILROAD. EXTENDED TO OWEGO.

On and after the 1st June, the trains will run as follows, daily, excepting Sundays: For Passengers—Through trains will leave New York for Owego by steamboat, from the Duane-st. pier, at 7½ o'clock, A.M. and 5 o'clock, P.M. stopping at Ramapo Station, Chester, Goshen, Middletown, Otisville, Port Jervis and all the way stations west of the last-named place; and will leave Owego on and after the 4th June, at 6 A.M. and 7 P.M.; and Binghamton, on and after the 1st June, at 7 A.M. and 8 P.M. arriving in New York at 7½ P.M. and 8½ A.M. stopping at all the way stations between Owego and Port Jervis; and, east of Port Jervis, at Otisville, Middletown, Goshen, Chester, Ramapo Station and Spring Valley. Way Trains for Port Jervis and all the intermediate stations, will leave New York, by steamboat Thomas Powell, from Duane-st. pier, at 7½ A.M. and 4 P.M.; and will leave Port Jervis at 6 A.M. and 4 P.M. Milk Trains—A train leaves Otisville at 5½ A.M. arriving in New York about 11. The afternoon milk is taken by the train leaving Port Jervis at 4 o'clock P.M. and arriving in New York about midnight. Freight—Freight leaves New York every night for all the regular stations on the road. A freight train will leave Owego every morning at 6 o'clock; and another will leave Port Jervis, as usual, every morning at 8 o'clock, with market freight, &c. JAS P. KIRKWOOD,

May 30, 1849. Superintendent.

NEW YORK & HARLEM RAILROAD, DAILY. WINTER ARRANGEMENT.

ON and after December 1st, 1848, the Cars will run as follows, until further notice:—

Trains will leave the City Hall, New York, for Harlem and Morrisiana at 7, 9, 9.30, 11, am. 12 m., 2, 4, 4.15, 5.30, pm.

Trains will leave the City Hall, New York, for Fordham and Williams'-Bridge, at 7 30 and 9 30 am., 12 m., 2, 4 15, 5 30 pm.

Trains will leave the City Hall, New York, for Hunt's Bridge, Underhill's and Haft's Corners, at 9 30 am., 4 15 pm.

Trains will leave the City Hall, New York, for Tuckahoe and White Plains, at 7 30 and 9 30 am., 3 and 4 15 pm.

Trains will leave Davis' Brook, Pleasantville, Chapequa, Mount Kisko, Bedford, Mechanicsville, Purdy's and Croton Falls, at 7 30 and 9 30 am., 3 pm.

NOTICE—Passengers are reminded of the great danger of standing upon the platform of the cars, and hereby notified that the practice is contrary to the rules of the Company, and that they do not admit any responsibility for injury sustained by any passenger upon the platforms, in case of accident.

Returning to New York will leave

Morrisiana and Harlem at 7 20, 8, 8 50, 10 am., 12m., 1 35, 3, 3 45, 5, 5 35 pm.

Fordham and William's Bridge at 7, 8 30, 9 50 am., 1 15, 3 25, 5 20 pm.

Hunt's Bridge at 8 20, am., 3 18 pm.

Underhill's Road at 8 10 am., 3 08 pm.

Tuckahoe at 8 05, 9 30 am., 3 05, 5 pm.

Hart's Corners at 7 55 am., 2 52 pm.

White Plains at 7 45, 9 10 am., 2 45, 4 40 pm.

Davis' Brook at 9 am., 2 35, 4 30 pm.

Pleasantville at 8 49 am., 2 20, 4 19 pm.

Mount Kisko at 8 30 am., 2, 4 pm.

Bedford at 8 25 am., 1 55, 3 55 pm.

Mechanicsville at 8 15 am., 1 45, 3 45 pm.

Purdy's at 8 05 am., 1 35, 3 35 pm.

Croton Falls, at 8 am., 1 30, 3 30 pm.

The trains for Harlem and Morrisiana leaving City Hall at 7, 9, 9 30, 11, 12, 2, 4, and 5 30, and from Morrisiana and Harlem at 7 20, 8, 10, 12, 1 35, 3, 3 45, and 5 o'clock, will land and receive passengers at 27th st., 42d, 51st, 61st, 79th, 86th, 109th, 115th, 125th, and 132d streets.

The 7 30 am., and 3 pm. Trains from New York to Croton Falls, and the 8 am. Train from Croton Falls will not stop between White Plains and New York, except at Tuckahoe, Williams' Bridge and Fordham.

A car will precede each train ten minutes to take up passengers in the city. The last car will not stop, except at Broome st. and 32d street.

Freight Trains leave New York at 6 am. and 1 pm.; leave Croton Falls at 7 am. and 2 30 pm., Sundays excepted.

NOTICE—On Sundays the 7 am. to Harlem and Morrisiana, returning at 8 o'clock, and the 7 30 am. to Croton Falls, returning 1 30 pm., will be omitted, and the 7 am. from Williams Bridge will leave at 7 40

ST. LAWRENCE & ATLANTIC RAILROAD COMPANY.

Notice is hereby given that the Trains run twice per day between Montreal and St. Hyacinthe, leaving each terminus alternately, until further notice.

Leaverng St. Hyacinth at	- -	7 am.
" "	- -	3 pm.
Leaving Montreal at	- - -	10 am.
" "	- - -	6 pm.

THOMAS STEERS, *Secretary.*

May 31, 1849.

BALTIMORE AND SUSQUEHANNA RAILROAD.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger Trains run daily, except Sundays, as follows:

Leave Baltimore at - - -	9 am. and 3½ pm.
Arrive at - - - -	9 am. and 6½ pm.
Leave York at - - - -	5 am. and 3 pm.
Arrive at - - - -	12¼ pm. & 8 pm.
Leave York for Columbia at	- 1½ pm. & 8 am.
Leave Columbia for York at	- 8 am. & 2 pm.

Fare:

Fare to York - - - -	$1 50
" Wrightsville - - -	2 00
" Columbia - - - -	2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG, AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg - - - - - -	$9
Or via Lancaster by railroad - -	10
Through tickets to Harrisburg or Gettysburg - -	3
In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at -	- 5½ pm.
Returning, leaves Owing's Mills at -	- 7 am.

D. C. H. BORDLEY, Sup't.

31 1y Ticket Office, 63 North st.

GEORGIA RAILROAD. FROM AUGUSTA TO ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD, FROM ATLANTA TO DALTON, 100 MILES.

This Road, in connection with the South Carolina Railroad, and Western and Atlantic Railroad, now forms a continuous line, 408 miles in length, from Charleston to Dalton Cross Plains) in Murray county, Ga. 32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class	Boxes of Hats, Bonnets, and Furniture, per cubic foot - -	$0 18	$0 28
2d class	Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs, and Confectionary, per 100 lbs.	1 00	1 50
3d class	Sugar, Coffee, Liquor, Bagging, Rope, Cotton, Yarns Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow ware, Castings, Crockery, etc.	0 60	0 85
4th class	Flour Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc. - - -	0 40	0 65
	Cotton, per 100 lbs. -	0 45	0 70
	Molasses per hogshead -	8 50	13 50
	" " barrel - -	2 50	4 25
	Salt per bushel - -	0 18	
	Salt per Liverpool sack -	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows - -	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Company will be forwarded free of commissions. Freights payable at Dalton.

F. C. ARMS,

44*1y Sup't of Transportation.

LITTLE MIAMI RAILROAD.—WINTER ARRANGEMENT.

Change of Hours.

On and after Thursday, November 9th, 1848, until further notice, Passenger Trains will run as follows:

Leave Depot East Front street at 9½ o'clock, am., and 2½ o'clock, p.m., for Milford, Foster's Crossings, Deerfield, Morrow, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield.

Returning, leave Springfield, at 2½ o'clock, and 9½ o'clock, am.

Passengers for New York, Boston, and intermediate points, should take the 9½ o'clock, am., Train from Cincinnati.

Passengers for Columbus, Zanesville, Wheeling and intermediate towns, should take the 9½ o'clock, am., Train.

The Ohio Stage Company are running the following lines in connection with the Trains:

A Daily Daylight Line to Columbus from Springfield in connection with the Morning Train from Cincinnati. Also, Daily Lines to Columbus, from Xenia and Springfield, connecting with the 2½ o'clock, pm. Train from Cincinnati.

The 2½, pm., Train from Cincinnati, and 2½, am., Train from Springfield, are intended for the accommodation of Way Passengers only, and will be eight hours on the road.

Fare from Cincinnati to Xenia	- -		$1 90
Do	do	Springfield - -	2 50
Do	do	Sandusky City -	6 50
Do	do	Buffalo - -	10 00
Do	do	Columbus - -	4 50

For other information and through tickets, apply at the Ticket Office on Broadway, near Front-st., Cincinnati.

W. H. CLEMENTS, Superintendent.

☞ The Company will not be responsible for Baggage exceeding 50 dollars in value, unless the same is returned to the Conductors or Agent, and freight paid at the rate of a passage for every 500 dollars in value to that amount.

BALTIMORE AND OHIO RAILROAD, MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½, and Cumberland at 8 o'clock,

passing Ellicott's Mills, Frederick, Harper's Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harper's Ferry—with the various railroad and steamboat lines between Baltimore and Philadelphia, and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between these points $7, and 4 cents per mile for less distances.—Fare through to Wheeling $11, and time about 36 hours, to Pittsburgh $10, and time about 32 hours.—Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily, except Sundays, from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M., and 5 P. M., and 12 at night from Baltimore, and at 6 A. M. and 5½ P. M. from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington, and the Relay House. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13 y1

PHILADELPHIA, WILMINGTON, & BALTIMORE RAILROAD.

Summer Arrangement.

April 1st, 1849.—Fare $3.

Leave Philadelphia 8½ am., and 10 pm.

Leave Baltimore 9 am, and 8 pm.

Sunday—Leave Philadelphia at 10 pm.

" " Baltimore at 8 pm.

Trains stop at way stations.

Charleston, S. C.

Through tickets Philadelphia to Charleston, $20.

Pittsburg and Wheeling.

Through ticket, Philadelphia to Pittsburg, $12.

" " Wheeling, 13.

Through tickets sold at Philadelphia office only.

Wilmington Accommodation.

Leave Philadelphia at 12 m. 4 and 7 pm.

Leave Wilmington at 7½ am., 4½ and 7 pm.

Newcastle Line.

Leave Philadelphia at 2½ pm.—Baltimore at 1½ pm. Fare $3.—Second class, $2.

N.B.—Extra baggage charged for.

I. R TRIMBLE, Gen. Supt.

PHILADELPHIA & READING RAILROAD.

Passenger Train Arrangement for 1848.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock am.

The Train from Philadelphia arrives at Reading at 12 18 m.

The Train from Pottsville arrives at Reading at 10 43 am.

	Miles.	No. 1.	No. 2
Between Phila. and Pottsville,	92	$3.50 and	$3.00
" " Reading	58	2.25 and	1.90
" Pottsville "	34	1.40 and	1.20

Five minutes allowed at Reading, and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf.

CENTRAL RAILROAD—FROM SAVANNAH to Macon. Distance 190 miles.

This Road is open for the transportation of Passengers & Freight

Rate of Passage - - $8 00. Freight—
On weight goods generally, 50 cts. per hundred
On measurement goods - 13 cts. per cubic ft.
On brls. wet (except molasses and oil) - - 1 50 per barrel.
On brls. dry (except lime) - 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery - - - 40 cts. per hundred
On hhds. and pipes of liquor, not over 120 gallons - $5 00 per hhd.
On molasses and oil - $6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission.

THOMAS PURSE,
Gen'l Sup't Transportation.

SOUTH CAROLINA RAILROAD.—A PASSENGER

Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily - - - - - - $26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia - - - 22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic Railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

JOHN KING, Jr., Agent.

THE WESTERN AND ATLANTIC RAILROAD.

—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Railroad.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur, and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer

Railroad Instruments.

THEODOLITES, TRANSIT COMPASSES, and Levels, with Fraunhoffers Munich Glasses, Surveyor's Compasses, Chains, Drawing Instruments, Barometers, etc., all of the best quality and workmanship, for sale at unusually low prices, by

E. & G. W. BLUNT,
No. 179 Water St., cor. Burling Slip.
New York, May 19, 1849.

TO LOCOMOTIVE AND MARINE ENGINE

Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine, and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; hollow Pistons for Pumps of Steam Engines etc. Manufactured and for sale by

MORRIS, TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut streets,
Philadelphia.

Norwich Car Factory,

NORWICH, CONNECTICUT,

AT the head of navigation on the River *Thames*, and on the line of the *Norwich & Worcester Railroad*, established for the manufactory of

RAILROAD CARS,

OF EVERY DESCRIPTION, VIZ:

PASSENGER, FREIGHT AND HAND CARS,

ALSO, VARIOUS KINDS OF

ENGINE TENDERS AND SNOW PLOUGHS.

TRUCKS, WHEELS & AXLES

Furnished and fitted at short notice.

Orders executed with promptness and despatch.

☞ Any communication addressed to

JAMES D. MOWRY,
General Agent,
Norwich, Conn.,

Will meet with immediate attention. 1y8

DEAN, PACKARD & MILLS,

MANUFACTURERS OF ALL KINDS OF

RAILROAD CARS,

SUCH AS

PASSENGER, FREIGHT AND CRANK CARS,

— ALSO —

SNOW PLOUGHS AND ENGINE TENDERS OF VARIOUS KINDS.

CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and

SHAFTING FOR FACTORIES.

☞ *The above may be had at order at our Car Factory,*

REUEL DEAN,
ELIJAH PACKARD,
ISAAC MILLS,
} SPRINGFIELD, MASS.
1y48

NORRIS' LOCOMOTIVE WORKS,

SCHENECTADY, N. Y.

THESE Works are in full operation in Manufacturing to order, Locomotive Steam Engines & Tenders, of the best principle and construction of material, using wrought iron heavy frames with pedestals welded thereto, and all parts of the engine made of the best wrought iron, except cylinders, pumps and boxes—obtaining greater durability, and carrying less weight over the road, than engines constructed of cast iron.

Wrought Iron Tires made any required size, and Tire Bars bent and welded with dispatch.

Chilled Wheels for Cars, Tucks and Tenders, made from the toughest iron.

Driving and Tender and Car Wheels fitted to Axles with Brass Boxes and Springs, and Railroad Machinery generally. Manufactured and for sale by

E. S. NORRIS.

April 11, 1849.

UPPER CANADA MINING COMPANY.

INCORPORATED BY ACT OF PARLIAMENT.

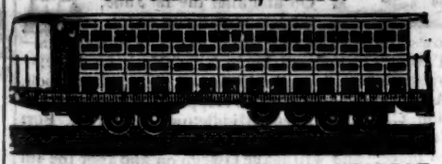
NOTICE is hereby given, that an ASSESSMENT OF ONE SHILLING AND THREE PENCE PER SHARE has been levied on the *STOCK OF THE UPPER CANADA MINING COMPANY*—one half thereof, or Seven Pence Halfpenny per share, being payable, at the office of the Company, in Hamilton, or to Messrs. W. & J. CURRIE, Agents, Wall St. New York, on the *First Day of April* next, and the other half on the *First day of July* next ensuing. By order,

J. D. BRONDGEEST,
Secretary U. C. M. C.

Hamilton, 24th February, 1849. 12tf

CAR MANUFACTORY

CINCINNATI, OHIO.



KECK & DAVENPORT WOULD RESPECTfully call the attention of Railroad Companies in the West and South to their establishment at Cincinnati. Their facilities for manufacturing are extensive, and the means of transportation to different points speedy and economical. They are prepared to execute to order, on short notice, Eight-Wheeled Passenger Cars of the most superior description. Open and Covered Freight Cars, Four or Eight-Wheel Crank and Lever Hand Cars, Trucks, Wheels and Axles, and Railroad Work generally.

Cincinnati, Ohio, Oct. 2, 1848. 44tf

Rolling Mills for Sale.

THE MASSACHUSETTS IRON COMP'Y offer for sale their two Mills, situated on Boston Harbor, at South Boston. Each Mill is 214 f by 174, including sheds. The two contain 15 double Puddling furnaces, and 9 Heating Furnaces.—There are two trains of Rolls in each Mill, altogether capable of manufacturing 1000 tons of rails per month. They are well located for the receipt and delivery of iron from vessels, with every convenience usually attached to such an establishment.

There is connected with, and will be sold at the same time, about 400,000 feet of upland, on which are erected, besides the mills, 4 blocks, containing each 4 brick dwelling houses for workmen: a wooden counting room with dwelling adjoining, a horse stable, and a coal shed 210 feet long by 70 feet wide now containing 2967 chaldrons Pictou coal and 933 tons of pig iron.

The terms of sale will be made liberal. For further information, apply to B. T. REED, Treasurer, Suffolk Buildings.

May 17, 1849.

ENGINEERS' AND SURVEYERS'

INSTRUMENTS MADE BY

EDMUND DRAPER,
Surviving partner of
STANCLIFFE & DRAPER.

No. 23 Pear street, near Third, below Walnut, Philadelphia.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED BY J. H. SCHULTZ & CO.

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TERMS.—Five Dollars a year, *in advance.*

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☞ LETTERS and COMMUNICATIONS this Journal may be directed to the *Editor*,

HENRY V. POOR, 54 WALL ST